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RAINING DATA PICKS UP WHERE PICK LEAVES OFF

TigerLogic XDMS 1.0 introduces native XML into company's database offerings

BY EDWARD J. CORREIA

Keeping one foot planted firmly in its Pick data systems business, Raining Data Corp. is stepping toward the future with TigerLogic XDMS 1.0, an enterprise-class database system that offers a native XML database engine that the company claims performs as much as 10 times faster than relational database engines using XML-to-relational mapping.

According to Boris Geller, vice president of market development at Raining Data, what differentiates TigerLogic from relational enterprise databases is what he characterized as a "natural fit between a Pick-based universal data model and XML's capability to expand and dynamically change the structure of its content," which is something he said is complex and time-consuming when mapping is involved.

"All the relational database vendors have announced plans or are currently capable of supporting XML on top of their relational engines. And while using XML-enabled relational stores may be good enough for low-end XML deployments, we found that providing midtier storage and natively managing

▸ continued on page 8

Vultus Makes Working Apps From WSDL

New version of WebFace IDE creates user interface for Web services

BY EDWARD J. CORREIA

Vultus Inc. is out to simplify WSDL consumption. The company this month is scheduled to release WebFace Solution Suite 3.3, the latest version of its thin-client Web development environment that it claims automatically turns WSDL files into working applications that interact with the underlying Web services. WebFace extends enterprise applications written for Mac OS and Windows to browser-based clients.

Before now, there was no simple way to test Web services, says Vultus' Grant.

Bruce Grant, chief architectural officer at Vultus (www.vultus.com), said that while many companies are delivering tools for creating WSDL files, the complex documents that define a Web service, not many are offering help with their consumption. "It's not easy to test Web services right now; it's an immature industry segment. If you've created a Web service, how do you test it and make sure it will be available for people to use?"

Grant said that WebFace 3.3 solves that problem with WSDL Consumption, the latest feature delivered in the WebFace Studio IDE. "From most any vendor's WSDL, we can generate a fully functional WebFace application. It presents developers with a dialog to specify the location of a WSDL definition and will automatically create the UI, text fields, radio buttons and everything else, and let you drag them

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More Tools Are Making Move to Mac

Apple brings X Windows apps to OS X at Macworld

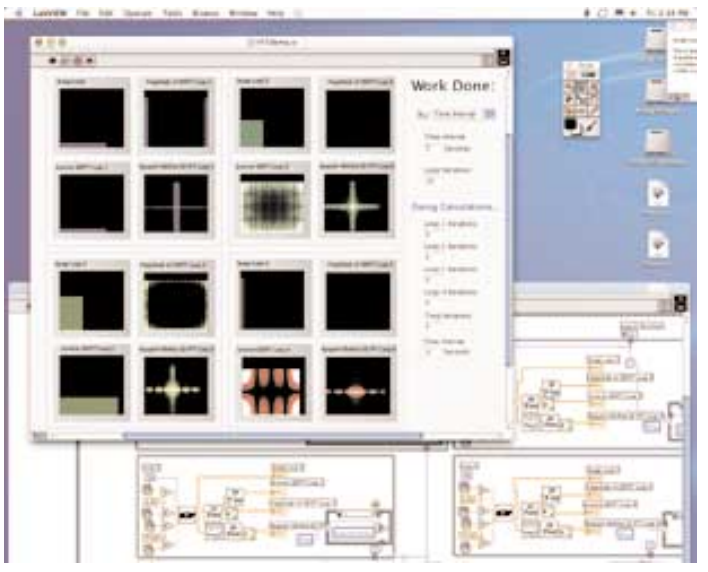
BY EDWARD J. CORREIA

Despite an economy that by most indications still is retrograding, this year's Macworld Conference & Expo at San Francisco's Moscone Center in January attracted 88,000 people, about the same number as last year, according to expo organizer IDG World Expo.

And if they came expecting to be jarred by **Apple Computer Inc**. CEO Steven Jobs, with his reputation for big-splash keynote speeches, they weren't disappointed. Jobs introduced the PowerBook 17, the world's first notebook with a 17-inch display, and like smaller-screened counterparts, still just 1-inch thick. He concluded his speech by announcing that he would stay on long-term as Apple CEO, finally dropping the "interim" from his title.

Apple also introduced X11 for Mac OS X, a tool set that permits applications written for

▸ continued on page 14



National Instruments expects to release LabVIEW for Mac OS X this year.

AONIX SPLITS, RESHUFFLES ITS ASSETS

BY DAVID RUBINSTEIN

A divestiture and corporate name change, a reshuffling of assets and a major update to its flagship development product—it's already been a busy year for what had been known as Aonix Corp.

Last month, the leader of Aonix's Critical Development Solutions division, Nicholas Hadjidakis, acquired the French subsidiary Aonix S.A., then turned around and purchased the CDS assets from Aonix, which then changed its name to Select Business Solutions, according to SBS vice president Hedley Apperly. Hadjidakis' company will retain the Aonix (www.aonix.com) name as it attempts to grow around

▸ continued on page 8

For developers under pressure to manage source code and do more in less time, Perforce's Fast Software Configuration Management System is the must-have tool.

With rival SCM systems, the only way to quicken the pace is to cut corners - but in the long run you pay the price with missed deadlines, uncertain contents, buggy releases and no way back to previous builds.

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Versata's Tool Handles Exceptions to the Rules

Model-driven Xcept puts failures in context of business processes

BY DAVID RUBINSTEIN

Versata Inc., which sells tools for manipulating business logic, rules and processes, last month announced to SD Times a new tool, Xcept, for handling exceptions, or process failures, within defined business processes. The tool is the first deliverable in its new strategy to target specific industries with a solution approach to the problem, according to the company.

Versata (www.versata.com) will treat exception handling as a business opportunity rather than a nuisance. "Those businesses that can handle the exceptional cases, the unusual ones, will better service their customers," said Brett Adam, Versata's senior director of market development. The securities industry, which deals with rapid change in terms of the reference data used to define pricing or new issues, is the first to be targeted by Versata. Health care and insurance are two more industries for which the company is looking to provide solutions, Adam said.

Xcept, which has been available for three months but had not been widely announced prior to now, uses metadata models rather than hard code to describe the business logic; this allows exception handling to be updated daily without much intensive programming. "Today's exception is tomorrow's use case and next year's system," Adam said. "We want to speed that up to next week's system."

The ability to detect and understand new requirements, and then to fold those requirements into the existing system and adapt business processes to those new requirements, is what will give some companies a competitive advantage over others, Adam said. Xcept, which includes a metadata modeling tool and integration server from MetaMatrix Inc., can detect exceptions that come in from XML messages and Web services or even e-mail, he added.

Once the exception is detected, Xcept automatically routes it to the correct member of the organization, based on the rules previously established. Versata, Adam, said, approaches exception handling from the operations perspective, not the requirements and analyses perspectives. The person handling the exception also is provided with access to the underlying data needed to investigate the exception. When the problem is resolved, the new data is fed back into the data stores, he explained.

Business process management is provided by Versata's Logic Server so Xcept can present the process of exception handling in a graphical manner, making updates fairly simple because they do not require programming, Adam said.

"If you can help customers find the leak in their operational pipelines and show them you can fix it, they'll buy your duct tape," Adam said. ▮

MACROMEDIA BROADENS SUPPORT

ColdFusion MX for J2EE takes on BEA, IBM, Sun

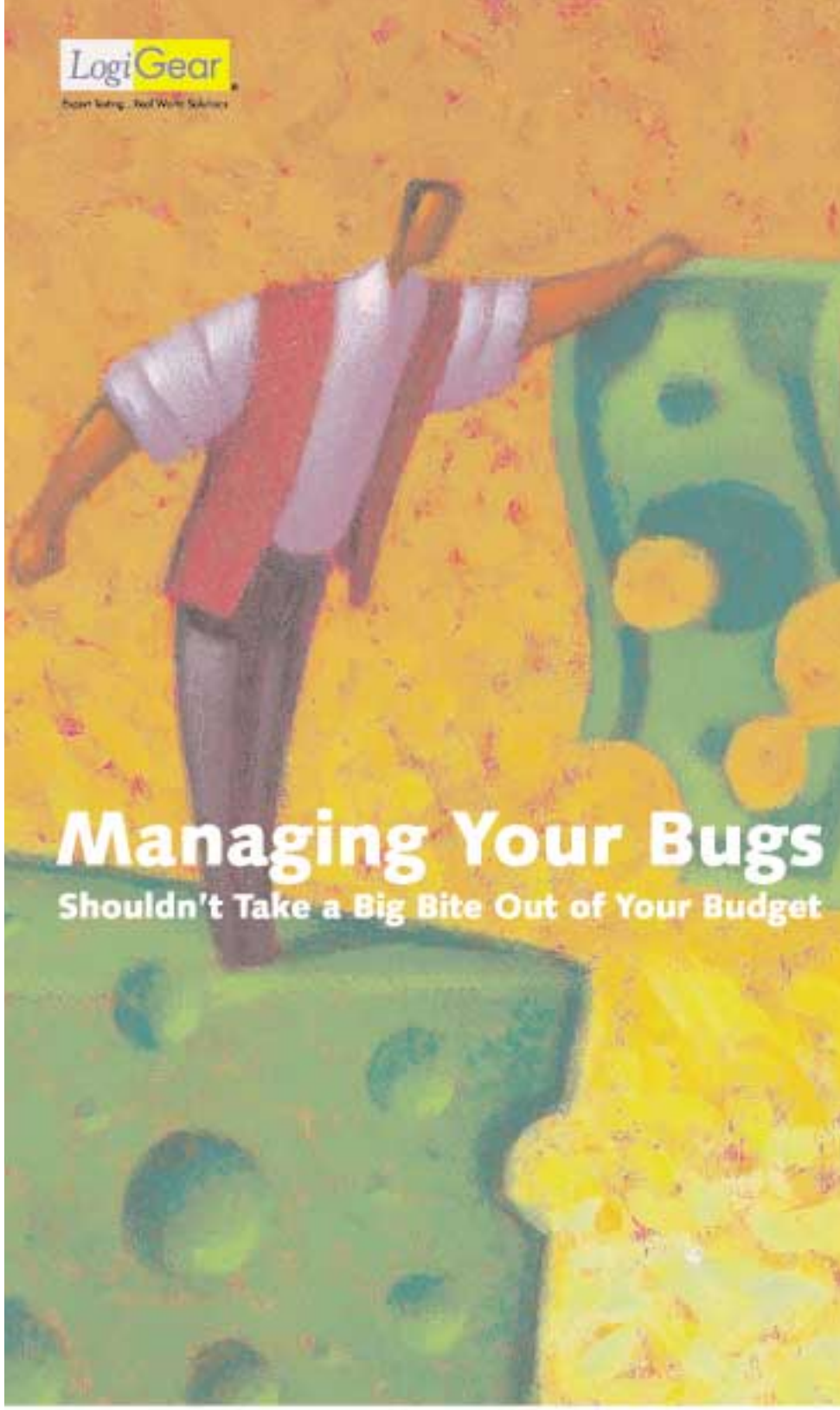
BY DAVID RUBINSTEIN

Macromedia Inc. has released an update to its ColdFusion MX for J2EE product that adds support for BEA's WebLogic 6 and 7, IBM's WebSphere 5 and Sun's Sun ONE Java application servers.

In addition, Macromedia has changed the way it packages ColdFusion MX for J2EE. According to Macromedia senior product marketing manager Phil Costa, it now is shipped as an enterprise archive (EAR) file that can be deployed directly onto a production server. "Most folks set up a process where development teams test and debug [code] and create an EAR file that's handed off to the deployment team," Costa said. "With this release, we're making ColdFusion fit with this process, to go with customs and procedures J2EE customers are used to."

One benefit of using ColdFusion MX for J2EE in this manner, Costa explained, is that IT departments can cluster multiple instances of ColdFusion on an application server, to balance a load, for example. He further added that users could have one set of applications running in one instance of ColdFusion and a different set of applications running in another instance. "There are security benefits; hosting companies might benefit from this," he said.

Costa claimed that the benefit of running ColdFusion on top of J2EE is that it adds a productivity layer for Web application developers who haven't made the transition to Java but still need the scalability and functionality of an application server. The product, which costs US$3,399 per server processor, has mostly been used for customer-facing applications, Costa said. ▮



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Conga Has a Line on GUI Design

Updated, renamed Java tool eases logic separation, installation

BY EDWARD J. CORREIA

It's more than Bongo. Open Doors Software on Feb. 1 is set to release Conga 2.2, the latest version of its Java GUI interface builder, formerly known as Bongo, that it says will ease the separation of business logic from the presentation layer and permit the packaging of binaries to simplify installation of Java desktop applications.

Bongo was originally developed by Marimba Inc., a company founded in 1996 by four members of the original Java development team. Marimba no longer develops or markets Bongo; it licenses the technology to Open Doors under its FreeBongo license.

Lane Sharman, CTO of Open Doors, said developers using Bongo to build front ends often were including business logic in the presentation layer. "That's exactly what you don't want to do because then you can't redeploy that business logic somewhere else; it's bound into the presentation layer. So we added controller patterns, elements to make it more straightforward to separate presentation from business logic." Both drums are played primarily with the hands, but a conga is a larger version of the bongo—hence the name for what Sharman called a "bigger, better Bongo."

The new version helps to keep code portable, says Open Doors' Sharman.

Sharman claimed that Conga's new controller patterns, also known as delegation patterns, simplify development and code reuse. "Before, the process of creating controllers was convoluted. It was difficult to implement a controller that was Conga presentation-compatible, and many developers ended up avoiding them and including their logic with buttons" and other interface elements, which is fine for building prototypes but complicates reuse. Controllers, Sharman explained, are messaging relays that connect the front-end presentation to back-end business logic. "Just like in your car's ignition, when you turn the key, a relay activates the starter."

Conga is targeted mainly at corporate developers building fixed-function, client/server apps that require more responsiveness than is possible with HTML apps. "Total-cost-of-ownership issues have pushed developers into browser-based applications, which are unsuitable for users that require the granularity, user control and response rates of call centers, training environments and financial institutions," he said.

Conga 2.2 also will deliver a simplified deployment method, which Sharman explained will enable images and other program resources to be accessed from within a class path, in addition to the local or remote file system access methods of earlier versions. "That means you can ship an entire application inside a single .jar file, including images, audio and everything you need. That makes target applications easier to package."

Sharman said that one of the main benefits of using Conga is that it puts the right tool into the right hands. "A Java programmer is not necessarily the right person to be designing a user interface. Managers need to ask themselves: 'Who is developing the user interface and are they appropriate for this job?' The ROI for software development is out of whack because companies are having programmers do things they are not skillful at doing and getting it wrong."

Pricing for Conga 2.2 for Linux, Mac OS and Windows starts at US$150 per developer seat per year, with no runtime fees. A free 30-day evaluation version is available at http://opendoors.com. ▮

FirstSQL Releases Second Version

BY EDWARD J. CORREIA

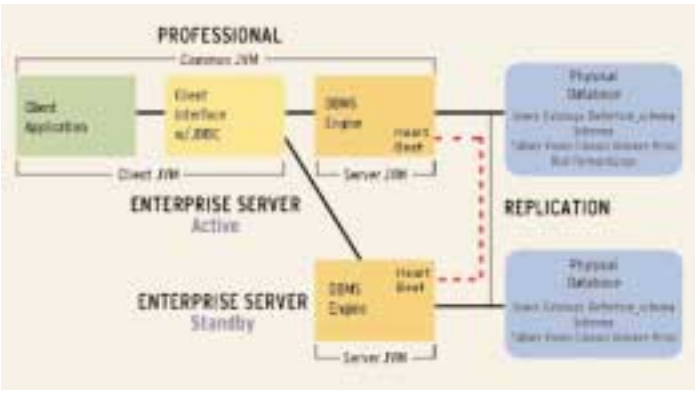
FirstSQL Inc. has released FirstSQL 2.0, the latest version of its all-Java database platform that the company says now enables developers to build application-specific databases that execute in memory, thereby improving response time by as much as 20 times. The new version also includes reliability features that make it suitable for high-availability applications, the company says.

According to Dave Morse, FirstSQL's vice president of marketing, developers switching to version 2 gain a major increase in performance with no changes to deployed software. "It gives people real-time ultra-high performance from their database that's 10 to 20 times faster than databases that store to disk. Applications can be started up in-memory and will just be faster," he claimed.

Morse also claimed that efficiencies within FirstSQL's data access structures eliminate certain procedures common to other databases. "In a disk-based system, there's quite a bit of processing; you have to do a lot of buffering, caching and moving data around. In memory, the data is accessed and manipulated directly," with changes written to a change log on disk, which Morse said keeps volatile memory secure. "If the system goes down, you lose everything in memory. But with the change log, anything that has changed has been saved to the disk."

FirstSQL 2.0 adds a degree of fault tolerance, he said. "The main database now can be replicated to a hot standby database, with a heartbeat mechanism to monitor the primary database. If that goes away, the standby takes over." To take advantage of this feature, Morse said deployed applications will need to be modified with a few simple instructions on how to behave when a failover occurs, and will also require an updated runtime, which he said is free. To accommodate its new features, version 2 also includes a new database creation and maintenance tool.

Morse said that what differentiates FirstSQL from PointBase and other Java databases is its treatment of Java classes as objects. "That means developers don't have to mess with [object-relational] mapping tools. They can take any of their Java classes and create them as database objects, and use their data types as database types. With other products, you need to get an O/R mapping tool so your Java types will mesh with your relational types. We do the O/R mapping internally."



FirstSQL 2.0's failover feature requires a change to deployed runtimes.

Pricing for FirstSQL 2.0, available now, starts at US$695 per developer seat; volume-dependent runtimes range from $10 to $100 per deployed seat. The company (www.firstsql.com) also offers an enterprise server for $1,195, including unlimited client/server connections. ▮

MICROSOFT REVAMPS .NET BRAND

Company changes names again for its forthcoming server

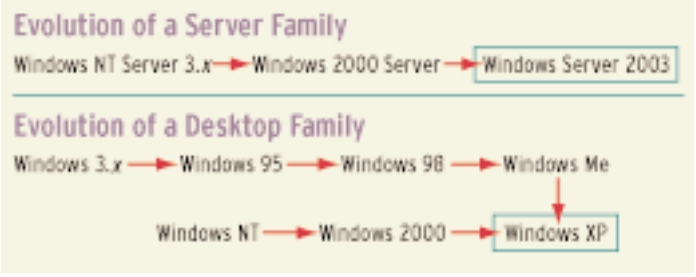
BY ALAN ZEICHICK

Goodbye, Windows .NET Server. Hello, Windows Server 2003.

In keeping with its long-standing practice of giving confusing names to its operating systems, Microsoft Corp. has abandoned the .NET label. The replacement for Windows 2000 Server, previously announced as Windows .NET Server, will now be Windows Server 2003. Note that the year has shifted position within the product name.

Why? According to an internal Microsoft document shared by a company spokesperson, "As support for Web services becomes intrinsic across Microsoft products, the company is moving toward a consistent naming and branding approach to better enable partners to associate with this strategy and enable customers to identify products that interoperate and connect based on Web service standards."

That translates to dropping the .NET name from the server; over time, it also may disappear from other products that are not tightly coupled to the .NET Framework. But that doesn't mean the brand is dead: "To simplify product naming and reconcile it with the .NET branding strategy, Microsoft will begin identifying products and services that support standards-based interoperability with the .NET Connected logo. The .NET Connected logo indicates a product's ability to easily and consistently connect disparate information, systems and devices to meet the needs of individuals and organizations."



At least Microsoft's server software isn't as confusing as its consumer desktop operating systems. ▮

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Trolltech Takes a Shot at Scripting

Similar to JavaScript, new Qt Script permits extensible applications

BY EDWARD J. CORREIA

Trolltech AS, maker of the Qt cross-platform GUI framework for C++ developers, has released for beta testing Qt Script for Applications, a tool set that it claims permits developers to build applications that can be extended by enterprise programmers or IT staff, VARs or end users by accessing a scripting language similar to JavaScript.

According to Hanne Linaae, product manager for Qt Script for Applications (QSA), the main benefit of the new tool set is that it permits those who are not developers to modify applications before or after deployment. "First and foremost, developers that don't have knowledge of C++ can modify or extend the original C++ applications. QT Script is similar to JavaScript; if someone knows JavaScript, they know Qt Script," as both are based on ECMAScript standards.

Such extensibility may be of particular interest to enterprise developers, Linaae said, because it provides the ability to customize applications as needed by users. "For example, an enterprise might be using an ERP system, which could be modified to cater to the needs of specific different departments. Or if you develop a spreadsheet, you could expose the ability to add extra functions such as a currency converter, for example."

QSA allows apps to be extended by non-techies, claims Trolltech's Linaae.

Linaae claimed that to add scripting to an existing Qt-based application is a simple process, with very little new code necessary. "You just need to add a few lines of code to enable the Qt Script, and then you specify which objects or parts of an application you want to expose to the scripter," she said, referring to Qt Scripter, an included IDE that combines a visual forms creator with a script editor and debugger.

The tools also include a library that Linaae said integrates the scripting within the Qt framework and eliminates the need for application binding or wrappers. "That tight integration is what differentiates QSA from other scripting solutions," she asserted, with scripted applications remaining as portable as their Qt-based counterparts; no changes to workstations are required.

Qt Script for Applications is scheduled for release in the second half of this year and will be priced per developer seat with no royalties or runtime fees; exact pricing was not disclosed by the company (www.trolltech.com). Like Qt, QSA can be used to create single-source applications that will run natively on Linux, Mac OS, Unix and Windows; an X11-based version for Linux and Unix will be available free for noncommercial development under a GNU General Public License. ▮

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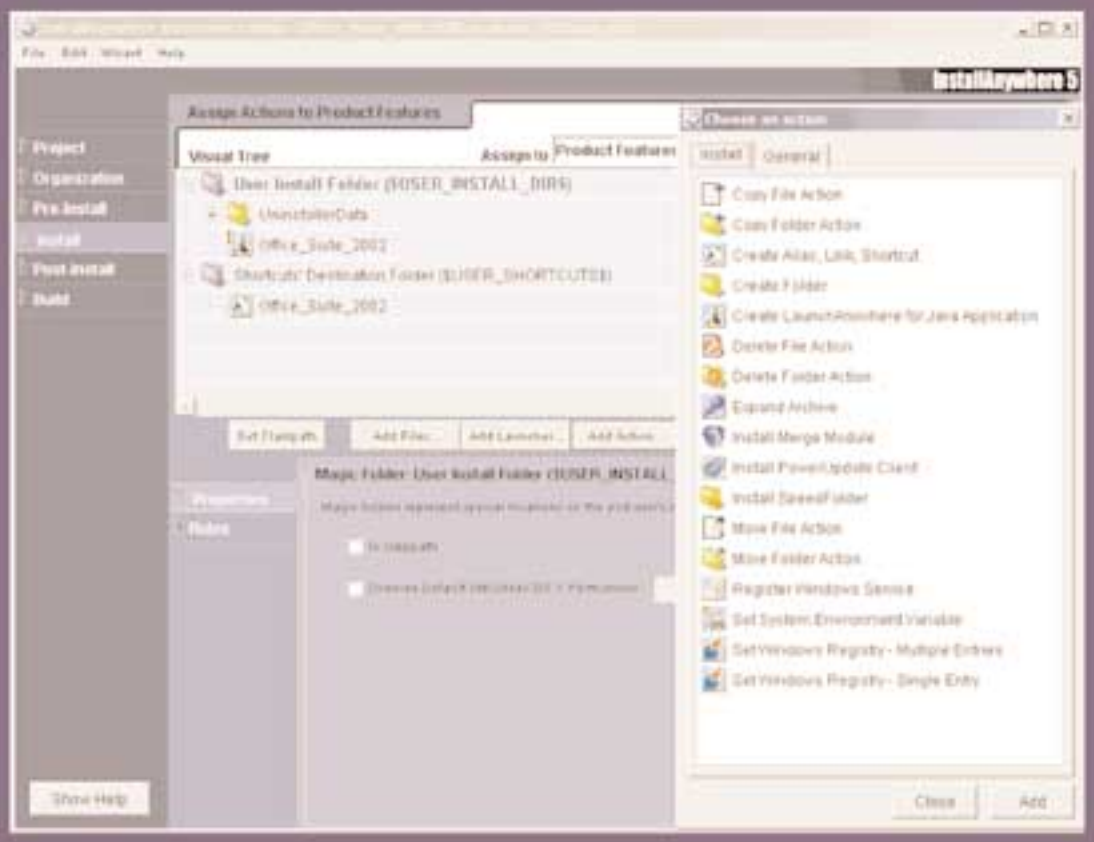

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AONIX SPLITS

◂ continued from page 1

the Software Through Pictures modeling tools, Ada compilers and other products that are used most in the real-time military and aerospace fields, Apperly said.

"This way, we can grow the company without the noise of having different market directions for different divisions," Apperly said. "[SBS] now is purely focused on business and IT." SBS has moved four miles down the road from the old Aonix headquarters to Gloucester, U.K., while its U.S sales force will remain based in Colorado.

SBS (www.selectbs.com), Apperly explained, will encompass two divisions—one for enterprise business intelligence solutions (eBIS), which features the old Aonix UltraQuest and Nomad mainframe tools; and the other for application development, featuring the Select product line. "In fact, there are some things driving the divisions together, such as Web services access to mainframe data."

SBS already has new tools and feature updates scheduled for release. Coming this month is Select UDDI Server, an extension to the Component Manager tool within the Component Factory suite. UDDI Server, which will sell for US$7,000 per site for any number of users or servers, is different from all other directories, Apperly said, because it is tied to the modeling capabilities of the Component Factory suite. Also new is Select Scope Manager, a $300 tool for managing Extreme Programming projects; it is integrated with Select Component Architect as well as Use Cases from Rational's Rose modeling tool. Its release was "imminent," Apperly said early last month.

The product updates SBS is releasing this month include the next version, 4.3, of the Select Component Factory. Within that suite, SBS is updating the Component Architect design tool with XMI support and C# extensions, as well as round-trip object/relational mapping. In the past, developers could map only from UML to data, Apperly said.

Also, the suite's Component Manager now integrates with Rational's Rose modeling tool; later this year, it should also integrate with TogetherSoft Corp.'s TogetherJ Java IDE, he added.

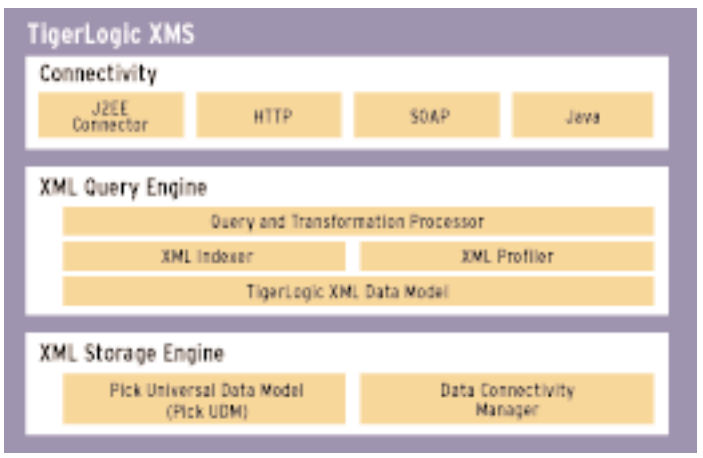
Pricing for the Component Factory and its individual products remains unchanged from the earlier version; $6,300 per developer seat for the suite, $3,500 for Component Architect and $1,400 for Component Manager. ■

RAINING DATA

◂ continued from page 1

XML content makes it easier for developers because they don't need to go through the coding necessary to map XML to the essentially flat, two-dimensional relational engine."

Geller claimed that performance for database storage and retrieval improves when mapping is no longer required. "You eliminate the processing overhead associated with decomposing and reconstruction of XML stored as relational content. In-house performance tests showed a 10-time performance improvement with TigerLogic versus alternatives," he claimed, without mentioning specific vendors. TigerLogic is compliant with Sun's Java Connector Architecture specification and supports XA-compatible transaction processing and online backup and recovery.



Raining Data claims that its TigerLogic native XML engine works faster than relational databases.

Pick became Raining Data when it was acquired by Omnis Systems in 2002, and many of its customers still use Pick back-end systems.

Geller insisted that its embrace of XML is not a move away from its Pick roots. "We will continue to invest in our core Pick-based products; TigerLogic is intended to expand the company's line of business to better serve existing customers and enter new markets. It's not a shift but rather an expansion of our core strengths."

TigerLogic XDMS 1.0 for Solaris and Windows is scheduled for general release by the end of March; pricing will start at US$25,000 per server processor. A developer release is available now for Windows at www.rainingdata.com. ■

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Visual Net Adds Flash Interface

BY CHRISTINA M. PURPI

Antarctica Systems Inc. has added a Flash interface to its new version of Visual Net, its graphical interface generator that plugs into the Apache Web server. Version 3.0 also includes add-in modules for supply-chain automation and visual storefronts.

According to Tim Bray, CTO of Antarctica (www.antarctica.net), Visual Net 3.0 provides a Web interface for displaying graphical information based on dynamic metadata. "It draws maps of information, like regular maps of cities and countries, as the colors, shapes and sizes are driven by metadata." The two-dimensional maps provide a more intuitive interface option, in addition to standard HTML, he claimed, saying, "[Visual Net] allows users to utilize a more dynamic, colorful and sexy, instead of a standard HTML, interface." The new version was set for release in mid-January, and does not require a browser plug-in. Visual Net communicates with data sources via XML, SQL or Web services.

The new add-ons are for supply-chain automation and virtual stores. Bray explained that the former is for companies with complex inventories, and provides line-of-business managers with a visual means of seeing inventory status and location.

The module for virtual stores is directed toward businesses trying to serve casual shoppers, who are browsing; Bray claimed that many stores are optimized instead for direct shoppers, who know specifically what they want. "Search engines handle

▸ continued on page 12

IntelliJ IDE Update Shoots For Summer

BY DAVID RUBINSTEIN

With the goal of bringing to market by summer a feature-complete development environment for enterprise applications, JetBrains Inc. will extend its IntelliJ IDEA 3.0 offering, released in November 2002, with a GUI builder and tighter integration with Java application servers. The Prague, Czech Republic-based company last month opened sales offices in the U.S. in a first step toward growing its share of the IDE market.

"We always wanted to raise the bar for development tools," said JetBrains CTO Eugene Belyaev. "We saw a lot of possibilities for improving code editors and introducing intelligence features." Belyaev claimed the insistence of developers to use the best tools will force vendors who sell IDEs bundled with app servers to open up to third parties, such as JetBrains (www.jetbrains.com).

Although better editing and refactoring capabilities are at the core of IntelliJ IDEA, version 3.0 adds a set of project-management tools to provide different views of the code, JUnit integration, tight integration with the Glue Web services toolkit from The Mind Electric, and broader support for JSP, EJB and XML. IntelliJ, which sells for US$699 per developer with support, runs on Linux, Solaris and Windows, and will run on Mac OS X upon the release of the Java 1.4 SDK by Apple. ▮

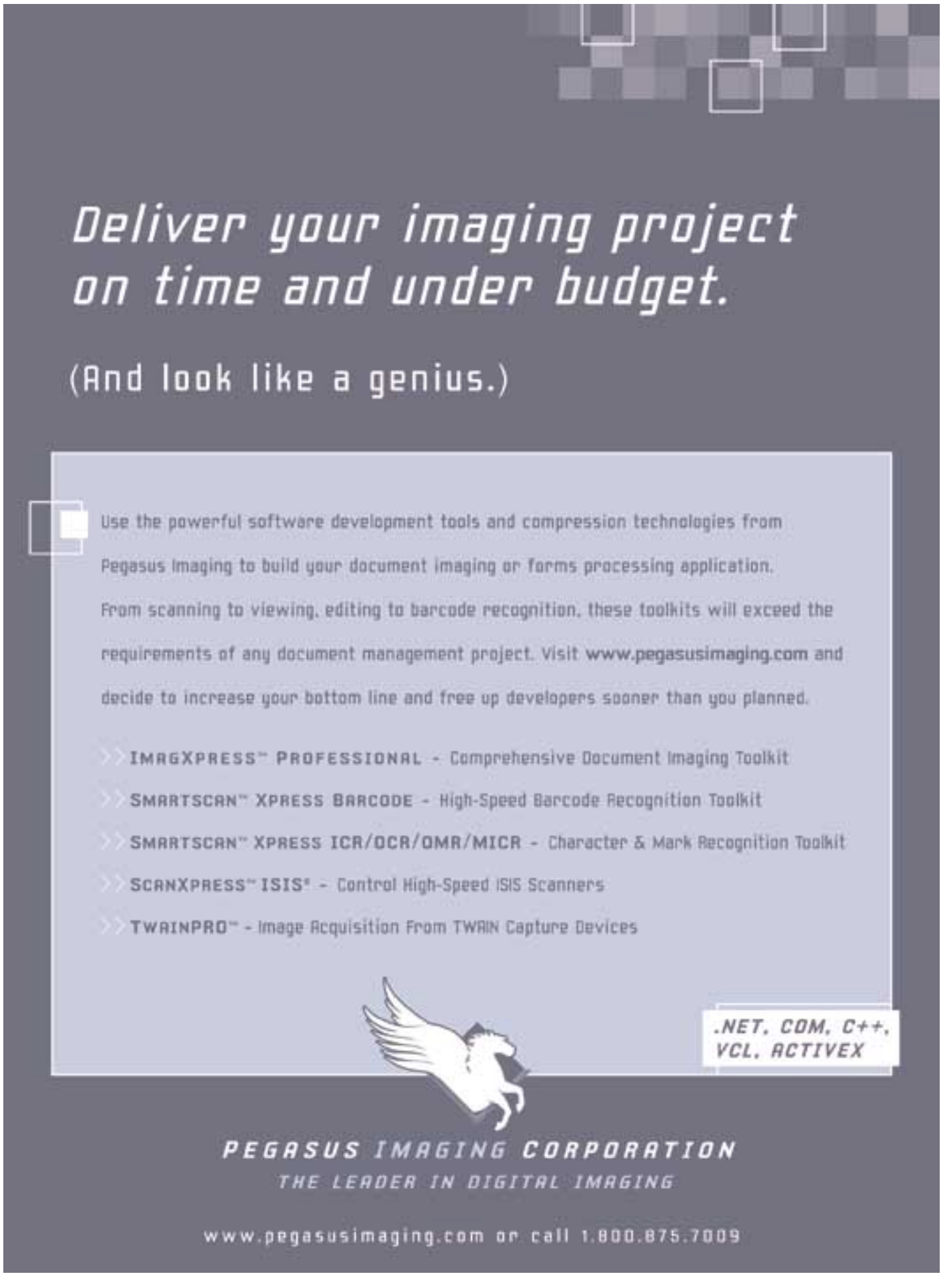
VULTUS

◂ continued from page 1

around, add branding and make the interface pretty."

According to Kevin Auger, vice president of business development at Vultus, the newly rendered apps can then be used as needed. "Developers can take the WSDL UI definition and drop it into a portal, have it running on the desktop or send it in an e-mail," he said, adding that multiple WSDL files can be combined into a single Web application. "For example, you could combine specific Web services like an airfare quote WSDL, a weather WSDL and a credit-card-processing WSDL, and create the beginnings of an online travel application," all without touching a single line of WSDL code.

Version 3.3 also adds a feature called download-on-demand, which Grant said "enables developers to bring down portions of an application as necessary so they can be more intelligent based on what the user is requesting." For example, he said an application that accesses an enterprise directory using LDAP might load business logic related to the display of a user's information when that user's name or icon is selected.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Application caching also has been added, which Grant said speeds up subsequent application feature requests after the initial one. "Now the developer can specify that a window or a piece of functionality should cache, so that the [second] time the user opens that window or uses that functionality, there would be almost no waiting time to interact with it."

Multiple WSDL files can be added to existing apps or portals, says Vultus' Auger.

Developers also have a choice of whether to include Mac- or Windows-like interface elements. "Now a single line of code in a WebFace application can omit the look-and-feel of its native operating system, including the title bar, border, [and] minimize and maximize buttons, so that the applications can be more readily integrated with existing Web sites if they choose."

Persistence has been added through a repository, which Grant said stores application-specific data and user preferences such as last window size, location and other application preferences. The repository also can store files, giving developers a means of storage for any target client.

Also scheduled for February release is the WebFace Application Generator, a free Web service that enables developers to enter a URL linking to a WSDL and generate a fully functioning application that can be used to test the corresponding Web service. "This can put a basic user interface on almost any WSDL file and showcase what the Web service can do. This allows you to [easily] interact with the resulting Web application," Auger said, adding that to host, enhance or deploy the resulting applications, developers will need to purchase the WebFace suite.

WebFace Solution Suite 3.3 costs US$5,995 for one or two server processors and one developer seat. Additional server processors cost $2,500; additional developer seats cost $995.

In addition to IE 5 and later, the software now supports Netscape 7 browser clients. General availability is set for the end of February. ▮

Shunra Targets Developers With Network Readiness Tool

BY CHRISTINA M. PURPI

Shunra Software Ltd. is making a leap into the development world with Stratus, its first product targeted at application developers.

Stratus is a server that tests the kind of experience the end user will have when an application is deployed over a wide-area network, according to Benny Daon, CEO of Shunra (www.shunra.com). "There is no way of evaluating how an application will perform over the WAN or for the people who code the application to know how it's going to work once it's deployed."

According to Shunra, that's because most distributed application design doesn't take into account the bandwidth constraints of a WAN, latencies (the delay between sending and receiving data), packet fragmentation (as parts of a data stream take different routes to its destination), jitter (variations in latency) and other effects not seen in an enterprise local-area network.

Stratus, Daon claimed, changes the way the LAN works so it will emulate a WAN's performance characteristics. "We provide the pipes of the LAN and slow them down so they will perform like the WAN." Daon explained that after starting Stratus from the desktop and importing code, "developers set a number of parameters of their target WAN, such as bandwidth, latency and [packet] fragmentation. Stratus will then transform the LAN into a WAN."

For advanced testing and for developers who don't know what kind of network their application is going to run on, Stratus has a central repository of WAN definition files that allow developers to replicate real WAN conditions. For basic network testing, developers do not have to understand networking to use Stratus, according to Daon.

Stratus, which was scheduled to be generally available on Jan. 13, runs on any Windows-based development environment and costs US$25,000 per 25 users, with volume discounts available. ■

OBJECTFRONTIER LOOKS TO CACHE IN

BY DAVID RUBINSTEIN

ObjectFrontier Inc. plans to release a data caching server in late May or early June to complement its FrontierSuite for J2EE 3.0, an object-relational mapping and data integration platform that was released in mid-November.

CEO Srikanth Rukkannagari said local caching of data is important in the financial and insurance industries, where applications are constantly drawing upon updated data and need the speed that caching can provide. Rukkannagari would not provide further details.

With version 3.0 of FrontierSuite for J2EE, ObjectFrontier (www.objectfrontier.com) has improved performance and integrated with Borland's JBuilder development environment as well as the open-source Eclipse framework and the SystemArchitect design tool from Popkin, Rukkannagari said. ■

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XGrotto Gets Web Services From the Web

BY CHRISTINA M. PURPI

OGIS International Inc. is making what it touts as a "contribution to the Web services market" with the recent announcement of the free availability of XGrotto, its Web services directory.

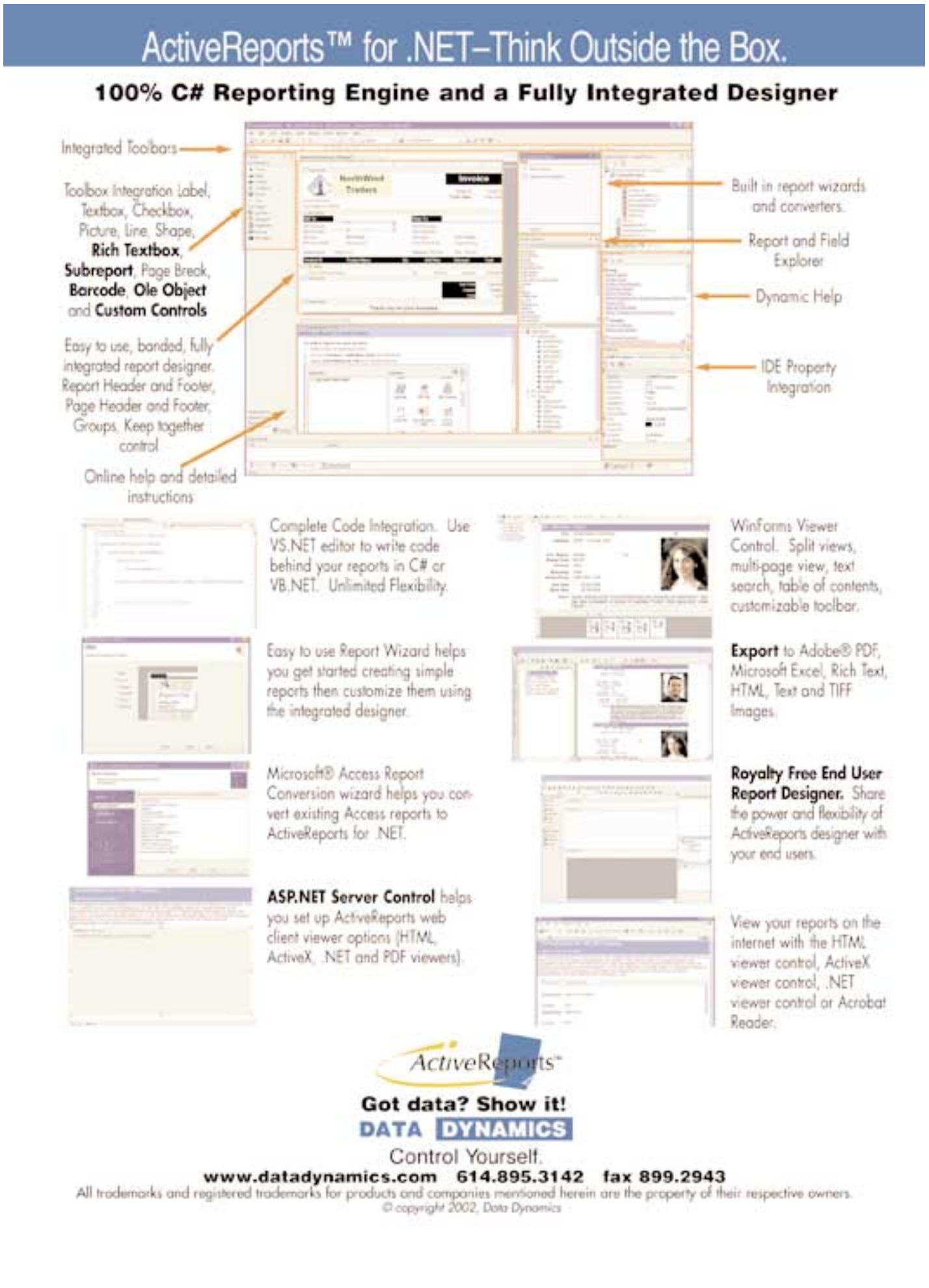
XGrotto (www.xgrotto.com), a hosted service running at OGIS, a subsidiary of Japanese company Osaka Gas Information System Research Institute Co. Ltd., attempts to solve three major Web services issues, according to general manager Katsuya Oba: difficulty in finding the right Web services, difficulty invoking them, and then integrating them into applications through a defined business process.

XGrotto includes a set of browser-based tools that allow a developer to specify a URL or a WSDL file; XGrotto takes care of the necessary steps needed to connect to that Web service, said Oba. For example, it generates Web interfaces for input and output of the service, in addition to generating the request of SOAP messages. This allows developers to test and benchmark the Web service straight from their Web browsers, he said.

The XGrotto UDDI-compliant directory comes with a keyword search, explained Oba. Focusing on Web services built using SOAP and WSDL, the directory also provides a place for vendors to publish their own Web services. "All you need is a Web browser," said Oba. The benefit, he explained, is that XGrotto can be utilized by developers with little programming knowledge or experience.

Because XGrotto is so new, there are a limited number of Web services within the directory, according to Oba, but he claimed that as the Web services market grows, so will XGrotto. Oba added that the company might charge for value-added features in the future.

What makes XGrotto different from other UDDI directories, according to Oba, is a keyword search and the ability for these Web services to be tried out with merely a few clicks from the browser. Oba added that OGIS is planning to provide SOAP-based APIs to access the XGrotto directory, but he would not specify a time frame for delivery of that feature. ▮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VISUAL NET

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directed shoppers well, but if I'm looking for something broader, such as romance novels, shopping around is not typically well served by search engines. Visual Net allows you to browse without having to deal with a lot of querying," he said.

Bray also described Visual Net as complementary to business intelligence tools, many of which provide a graphical interface to data. "Our approach is dramatically different from the way most BI tools operate; they work by running an ad hoc query against a relational data store and generating reports on that basis. Our tool is oriented toward drilling into information without having to query on a point-and-click basis. We are a natural extension of the direction BI tools are going in." ▮

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News Briefs

COMPANIES

ThinkingBytes Technology Inc., which sells mobile database development tools, has changed its named to **Adesso Systems Inc.** The company also has hired a new COO, Peter Shields, who was formerly CEO of Tilion Inc. . . . **SynQuest Inc.**, a supply-chain management tools vendors, is changing its name to **Viewlocity Inc.** In November 2002, SynQuest had acquired Viewlocity in a reverse merger.

PRODUCTS

DataPower Technology Inc. has released a Web services security gateway. The **XS40** appliance acts as an XML/SOAP firewall, validates XML fields and data, and provides SSL acceleration to offload message encryption from application servers . . . Cape Clear Software Inc. has announced the general availability of its **Cape Clear 4** Web services productivity suite. A Web services management server was added to its latest edition, as were updated versions of **CapeConnect**, its integration server, and **CapeStudio**, its development tool . . . IBM Corp. has posted several new tools to its alphaWorks site, including **XEDIT for Java,** a copy of the VM/CMS text editor; a tool for measuring client-perceived response time for Web transactions; and a tool, called **Advanced Web Annotation**, for adding comments to embedded Web images . . . ExclamationSoft Corp. has shipped two e-mail components for .NET servers. **SMTP.NET**, priced at US$99.95 per developer, extends the base functionality in .NET's e-mail libraries, and adds authentication, mail merge and personalization. **EmailQ.NET**, at $149.95, is an e-mail queuing component for SMTP.NET that handles messaging scheduling, off-peak transmissions and tracking . . . Advanced Systems Concepts Inc. has updated its **ActiveBatch** job scheduler for OpenVMS, Unix and Windows. Version 4 includes a graphical tool that lets operators and developers view and monitor active jobs and dependencies . . . MondoSearch A/S has updated its eponymous site search and reporting tool to work with .NET. **MondoSearch 5.0** for .NET, which aggregates user data from across multiple Web servers, now also works with HTTPs and Web services . . . **CORE for .NET** is a new software monitoring and management tool from Confluent Software Inc. This release, which runs on Microsoft's .NET platform, lets developers integrate policy enforcement and monitoring into Web services applications. CORE for .NET will be available in the first quarter . . . SolarMetric Inc. has updated its **Kodo JDO** tool, which ties Java applications to databases using object/relational mapping and Java Data Objects. Version 2.4.0 can be plugged into Borland's JBuilder, IBM's Eclipse and WebSphere Studio, and Sun's NetBeans and Sun ONE Studio. It also can generate metadata from existing Java classes . . . Empress Software Inc. has updated its **Empress RDBMS** to version 8.62. This release eliminates a 2GB file-size restriction for database tables; improves third-party compatibility with SQL, ODBC and JDBC APIs; offers an interactive Java GUI for database testing; and supports Persistent Stored Modules, as specified by the SQL 99 standard.

STANDARDS

Sun Microsystems Inc.'s Java Community Process has released a proposed final draft specification of **JSR-31, XML Data Binding**, described as a facility for compiling an XML schema into one or more Java classes that can parse, generate and validate documents that follow the schema; and **JSR-116, SIP Servlet API**, described as a high-level extension API for session initiation protocol-based servers that enables SIP applications to be deployed and managed based on the servlet model. A new Java specification request is **JSR-203, More New I/O APIs for the Java Platform**, which focuses on defining APIs for file system access, scalable asynchronous I/O operations, socket-channel binding and configuration, and multicast datagrams . . . The World Wide Web Consortium has released **SOAP 1.2** and **Namespaces 1.1** as candidate recommendations. It published working drafts of **XHTML 2.0**; **QA Framework Test Guidelines**, a set of common guides for releasing test materials for W3C specs; and **MathML 2.0**, an XML application for mathematical notation and content. ▮

MOVE TO MAC

◂ continued from page 1

the X11 Unix-based X Windows environment to run on Jaguar, the latest version of Mac OS X. According to the company, the new tools include an X11 display server, client libraries and a developer toolkit, all of which simplify the job of porting Linux- and Unix-based apps written for X11 to OS X. A public beta is available at www.apple.com/macosx/x11, with general release scheduled for later this year. Pricing was not disclosed.

Macromedia Inc. was demonstrating JRun 4 for Mac OS X, a port of its Java application server that it claims is the first commercial J2EE app server for Mac OS X. Macromedia (www.macromedia.com) also released a free developer edition of ColdFusion MX for Mac OS X, adding scripting capabilities to JRun 4 and enabling Macromedia Studio MX users to create and test ColdFusion MX applications on OS X.

What's more, said Phil Costa, a senior product marketing manager at Macromedia, "Java and ColdFusion apps can be developed on [Apple's] Unix-based platform, and they will run just as well ported to Windows." JRun 4 for Mac OS X is US$899 per processor; the company also offers a free developer edition. All are available now.

Oracle Corp. has joined the OS X fray with the release of Oracle9i JDeveloper 9.0.3, a version of its Java IDE and development-scale J2EE application server for Apple's operating system that it will offer for free to members of its Oracle Technology Network. The IDE, which also supports XML and SQL, is available now at http://otn.oracle.com/software.

Smith Micro Software Inc. has introduced WebDNA Enterprise Edition, a version of its Web site construction environment that now supports XML document parsing and validation, XSLT translation, XPath query, and UDDI, WSDL and SOAP protocols.

Built around WebDNA 5.0, a forthcoming update to its Web scripting language for Linux, Mac OS X, Unix and Windows, the enterprise edition also will deliver collaborative capabilities through a browser-based workgroup content manager.

According to Bruce Quigley, director of business development at Smith Micro (www.smithmicro.com), the enterprise version combines and extends its Web catalog and merchant editions.

"This is like the kitchen sink. It includes templates and sample scripts for everything an enterprise would need to build, [including] pages, an online store, developer [discussion] groups, plus newly productized versions of our workgroup features," he said, which will include subproject work areas, security privileges, version control and automatic change notification.

WebDNA Enterprise Edition is due to begin shipping by the end of March and will sell for US$4,995 per server.

Redstone Software Inc. has sprouted Eggplant 1.2 for Mac OS X, the latest version of its automated application test tool for analyzing GUI applications running on Linux, Mac OS, Unix and Windows. According to the company (www.redstonesoftware.com), the new version now supports sockets and SSH tunneling, enabling its SenseTalk scripting language to communicate with systems under test via TCP/IP and remotely execute testing commands over a secure shell (SSH) connection. Pricing starts at US$3,400 for a node-locked license and $6,800 for a floating license.

Developers of multimedia content may be interested in beta testing Anark Studio for Macintosh, Mac OS X version, from **Anark Corp.** (www.anark.com). Previewed at Macworld, the new version reportedly includes a newly optimized workflow, drag-and-drop JavaScript, and composition and 3D capabilities typical of high-end rendering systems. Pricing and dates for general availability were not disclosed.

National Instruments Corp. is working on a version of its LabVIEW graphical development environment for Mac OS X. The company was demonstrating an early version of the software, which is commonly used by scientists and engineers in lab settings to create applications and virtual instruments that acquire, analyze and present technical data such as temperature, pressure, vibration and voltage. A preview version of LabVIEW for Mac OS X can be downloaded from www.ni.com/mac. General availability is set for later this year.

4D Inc. (www.4d.com) is embracing Web services with 4th Dimension 2003, the latest version of its cross-platform RDBMS development environment that now supports SOAP, WSDL and XML, including an XML parser and XML import/export capabilities. The new version also reportedly includes an integrated compiler that the company claims can improve compile times by as much as 50 percent. The Mac OS X version is scheduled for release by the end of March, with a Windows version to follow soon thereafter. Pricing starts at US$349 per developer seat. ▮

PICK AN OPEN-SOURCE DATABASE

Hoping to ride the Pick database bandwagon, a group of developers calling itself the Maverick Maintenance Team is working on an open-source implementation of a database compatible with multivalue systems developed and marketed by IBM Corp., Revelation Software and Raining Data Corp., formerly known as Pick Systems.

The Java application, which supports JDK 1.1 and later, is intended to allow developers to build applications compatible with Pick databases used extensively in health care, factory distribution and point-of-sale devices, particularly in the food-services industry.

According to open-source developer Robert Colquhoun, who's developing the compiler, Unix and Windows developers should have no trouble using the latest prerelease (now at version 0.2.2) but Mac OS X users might have trouble with it. "We found some issues with the character set; Mac OS X remaps some characters," he said. Colquhoun recommended that OS X developers use the snapshots maintained at www.maverick-dbms.org/Snapshots.html, which are more recent. Snapshots are created within four hours of a change to the source tree; 10 of the most recent snapshots are maintained at any given time.

Maverick will be licensed under a GNU Library GPL, which requires that source-code changes to Maverick also be released under the Library GPL. The latest prerelease version of the database is available at www.maverick-dbms.org/Download.html. General release is expected sometime in 2004. *—Edward J. Correia*

Iona Puts Foot to 'Inferno'

Company developing Web services-based rapid integration suite

BY DAVID RUBINSTEIN

Hoping to spur a return to profitability, Iona Technologies Inc. will release a suite of products, code-named Inferno, in the first quarter of this year that are focused on rapid integration, high performance and high quality of service.

Declining to go into detail about the products, Iona CEO Barry Morris said those focus areas "are the business drivers. We're putting a hard-core focus on Web services mechanisms." He claimed the new products will have "a revolutionary effect on how systems are integrated."

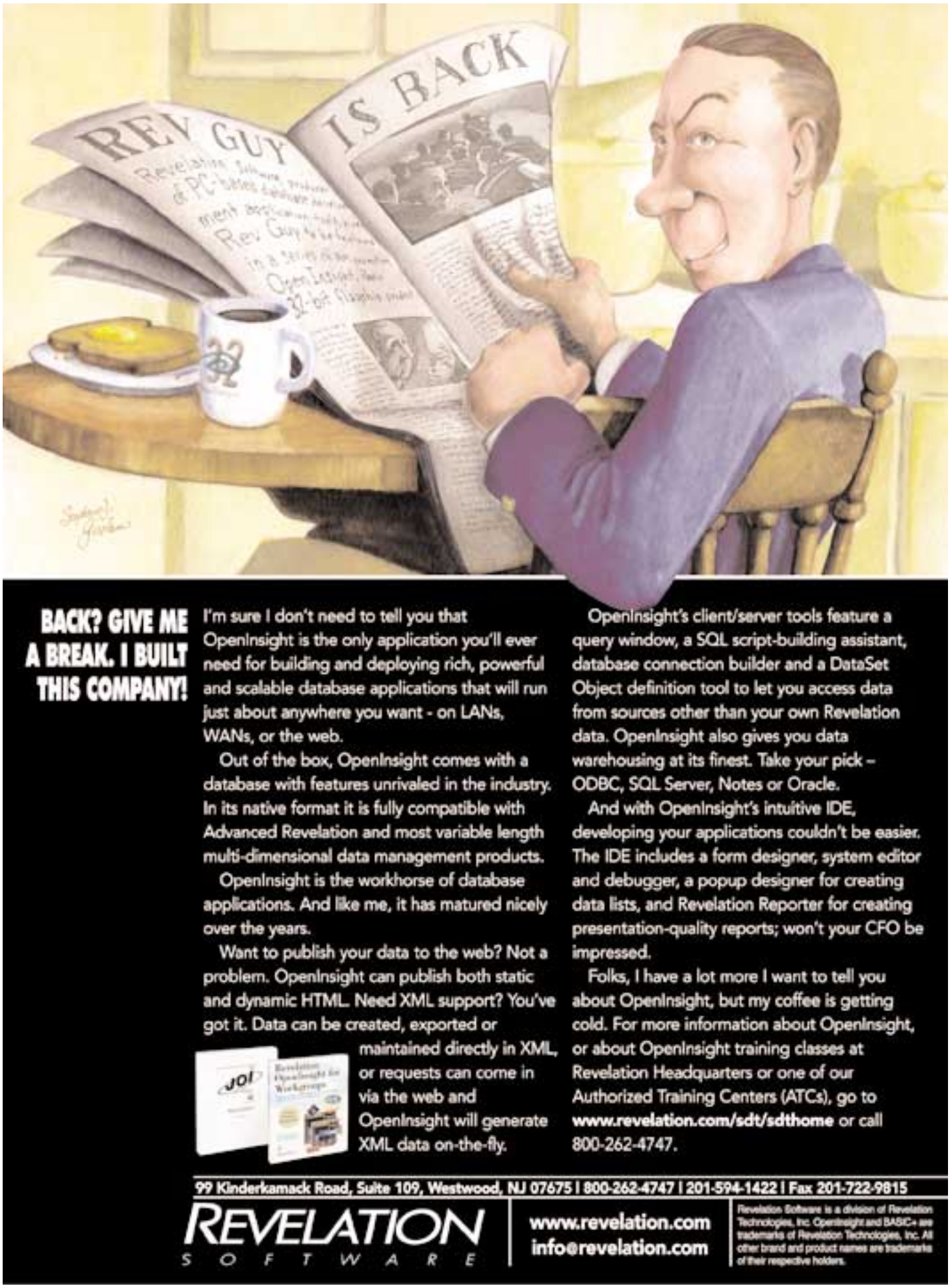
Morris cited Iona's success in the standards-based middleware market—the company had been profitable every year before falling into a deficit in 2002, he said—as giving the company an inside track into this rapid integration space. "Systems are deployed using SOAP and WSDL, and with other mechanisms for such things as security. Iona's position is to be the most interoperable and most focused on standards." Morris said Iona has cut 200 jobs in the past six months to try to return to profitability.

The momentum clearly is around Web services, says Iona's Morris.

Iona's position has changed numerous times over the past few years—from CORBA, to portal technology, to XML business-to-business, to Web services. Morris, though, insisted that CORBA is at the heart of Iona's vision. "CORBA is the most widely deployed enterprise middleware on the planet. We're investing in that. For reliability and security, there's nothing better than CORBA."

To sharpen its focus, Morris said the company's Orbix Collaborate tool, which was developed largely from a US$270 million acquisition of Netfish Technologies in 2001 along with pieces of the SagaVista integration suite it purchased from Software AG, will have reduced functionality to reside only inside a firewall. The idea behind Netfish was to provide XML-based integration processes and EDI messaging. Morris said it is the foundation for the Collaborate Enterprise Integrator product that is a core piece of the Orbix E2A Web Services Integration platform.

Also, Morris said, Iona (www.iona.com) has backed off business-to-business protocols, removing support for RosettaNet and ebXML, while moving toward what has been described as a service-oriented architecture based on Web services. "Clearly the momentum is around Web services technologies," such as SOAP, WSDL, UDDI and XML, Morris said. "The integration problem is among the top three for CIOs." ■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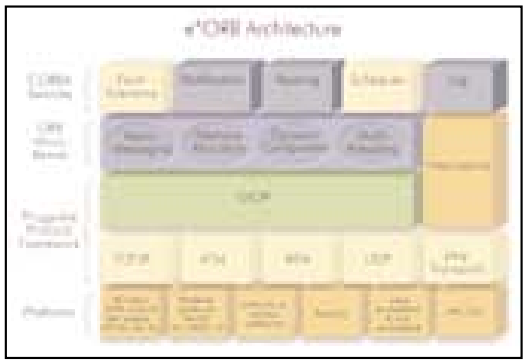
PrismTech Acquires Vertel's eORB

Embedded request broker completes CORBA strategy

BY EDWARD J. CORREIA

Marking its first foray into the embedded tools market, middleware developer PrismTech Ltd. has purchased the CORBA business unit of network software maker Vertel Corp. for an undisclosed sum. The acquisition included eORB, a small-footprint object request broker for C/C++ that PrismTech will offer for resource-constrained devices.

"It's the completion of a strategy," said PrismTech CEO Keith Steele. "We wanted to be able to offer a complete range of CORBA products from embedded to any level. We also get a fairly sizable deal with [defense contractor] General Dynamics for their joint tactical radio system development." PrismTech (www.prismtechnologies.com) already develops and markets OpenFusion, which includes free CORBA-compliant enterprise ORBs that it supplies mainly to telecommunications, defense and financial markets. "But they're not fit for embedded applications; they don't have the footprint or performance," he said. eORB occupies as little as 75KB of device memory, Steele said.



The C version of eOrb occupies 75KB of device memory.

Sam Aslam-Mir, eORB product manager and formerly Vertel's chief architect for eORB, said the main advantages of deploying an embedded ORB are the increased communications capabilities it brings to the device. "Having an ORB on a device vastly improves connectivity of that device for applications, and allows the application to communicate directly with other applications and to export functionality or reach for functionality on a device somewhere else."

Aslam-Mir explained that because it uses a set of standardized interfaces, the presence of an ORB on a device also vastly improves its usability and simplifies the job of writing embedded applications that will integrate within an enterprise. "It makes it much easier to collect data in real time [for example], and allows integration of applications into higher-level enterprise applications."

Steele said that within telecom and defense, there's been a rise in requests for mobile middleware for handheld computers and other portable devices. "There's a move toward standards-based middleware software on everything from missiles, command and control centers and satellite communications."

eORB also supports specifications from Object Management Group for real-time applications for Linux, Unix and Windows, Steele said.

Available now, eORB pricing is based on the deployment model. Development licenses start at US$10,000 plus a volume-dependent royalty ranging between $10 and $1,500. ■

APPLIED RELEASES DISPLAY MASTER

BY EDWARD J. CORREIA

Single-board computer maker Applied Data Systems Inc. has released Display Master, a RISC-based SBC running Windows CE .NET that it says is suitable for kiosks, point-of-sale terminals, and electronic slot machines and other gaming-industry devices. A Linux version was scheduled for release later this month.

Fred Salloum, director of sales and marketing at Applied (www.applieddata.net), said that what differentiates Display Master from other ADS boards is its dedicated graphics accelerator—an MQ-200 from MediaQ Inc.—working with its Intel StrongARM SA1110 main processor. "That opens the door to display real-time animation with good-quality pictures on large LCD displays," he said. "You see these a lot in the gaming industry, and in hotel kiosks showing movie clips."

Salloum said that until now, boards offered by ADS burdened the main processor with driving the display, which he noted limited their capabilities to 8- or 16-bit color and 640 x 480 resolution. The MQ-200 provides 24-bit color with 1024 x 768 resolution with touch-sensitivity. Other options include Fast Ethernet, a four-port USB master hub, stereo audio codec, PC-Card and Compact Flash slots, and as many as three serial ports.

"Our main competition is from desktop PCs," which Salloum asserted are less suitable for embedded applications due to their size, power consumption and heat dissipation requirements. "You can put the Display Master into compact spaces and, like all our boards, is ruggedized, so you can beat up on them pretty significantly," making them suitable also for instrumentation and handheld applications, he said.

The Display Master, which measures 6 x 8.5 inches, is available now and, depending on configuration and volume, costs between US$300 and $400, including a Windows CE license. ■

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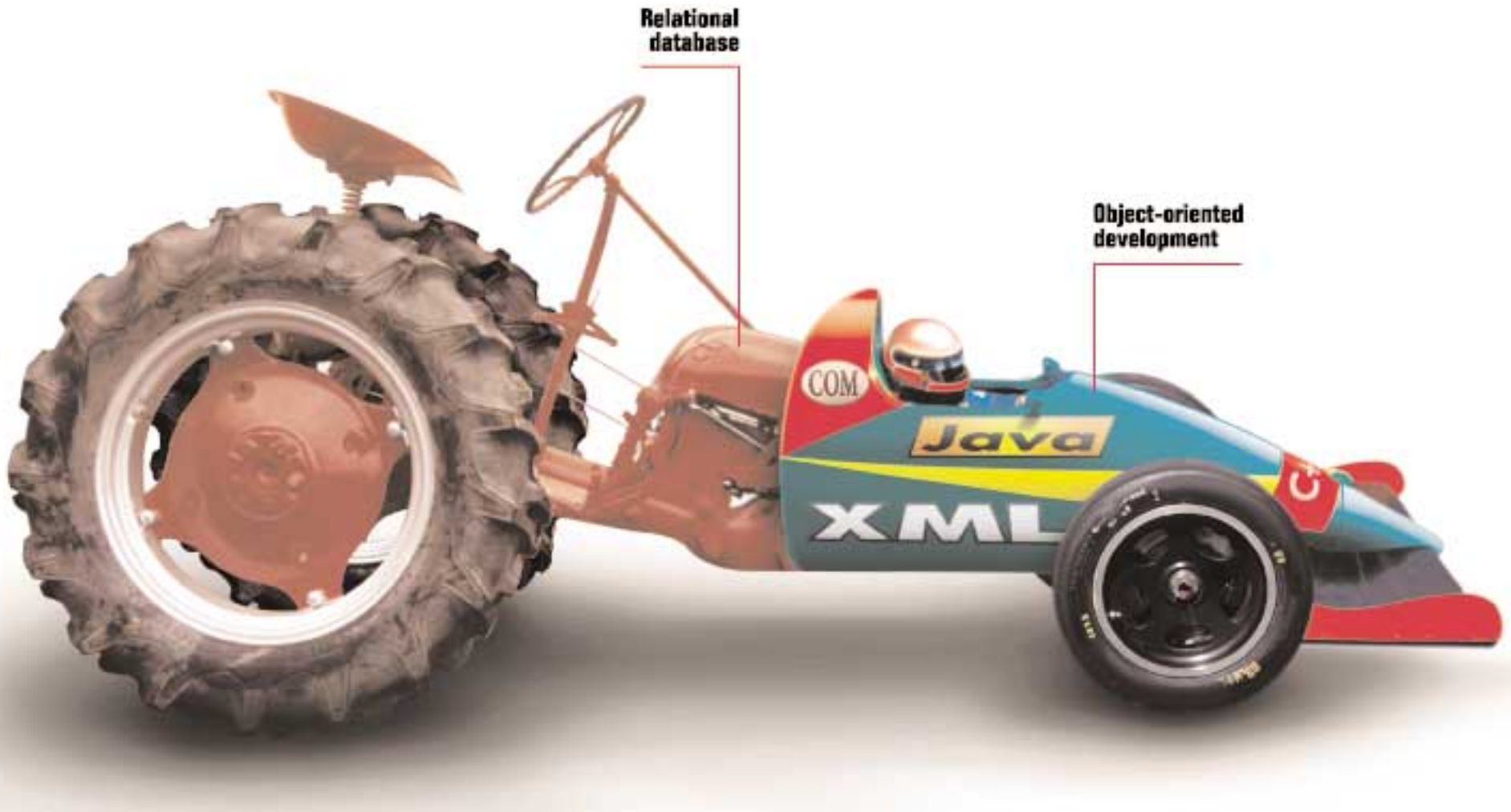

If your back-end database isn't a good match for your front-end development, you need a new database. Caché, the post-relational database from InterSystems, is a powerful fusion of today's mainstream technologies: objects and SQL.

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Embedded Confusion

With no true standards and few common features, database choices are difficult

BY LISA MORGAN

Choosing the right embedded database for a handheld computer, gas pump, industrial device or consumer product can be a perplexing endeavor. Unlike the enterprise space where the "big three" relational database vendors—IBM Corp., Microsoft Corp. and Oracle Corp.—dominate, there are many small players in the embedded database market whose products, embedded design philosophies and pricing can vary significantly.

"The embedded space is confusing," said Colleen Graham, an analyst at research and consulting firm Gartner Inc. "The market is comprised of segments, and many of the vendors are niche players who approach the market very tactically based on assumptions."

Embedded databases typically fall into one of three categories: traditional embedded, application-specific and client/server, although the lines between these categories can blur. Graham said that a mobile device can be built using products aimed at any one of the three segments, for example.

What drives the actual choice of a particular embedded database is the purpose of the device, available processing speed and memory, the capabilities of the embedded database, synchronization requirements, software design considerations such as language and SQL support, and the relationship, if any, to enterprise back-end systems.

Given the soft economy, customers also are becoming increasingly concerned about the long-term viability of individual vendors and, of course, the pricing of the database itself. Most embedded databases are resold through original equipment manufacturers (OEMs) and ISVs, because that's where the volume is.

DIFFERENTIATION IS HARD TO FIND

Although vendors may agree that embedded devices will increasingly need to tie back into enterprise systems, they do not all agree on what type of embedded database is best for the job. Almost every player has a unique approach to the embedded space, as this brief, informal survey of a few of the leading embedded database vendors reveals.

Take SQL, for example. Some vendors argue that because SQL is an industry standard and so pervasive on the back end, for the purposes of interoperability and management an embedded SQL database is the obvious choice, particularly for designers who want to link to SQL databases. Other vendors, like McObject LLC, argue that SQL can translate to unnecessary overhead, particularly in space-constrained designs.

One obvious SQL proponent is Sybase Inc. and its iAnywhere Solutions Inc. division (www.ianywhere.com), which offers SQL Anywhere Studio 8, marketed toward mobile, workgroup and embedded designs. According to Chris Kleisath, iAnywhere's director of engineering, instead of providing a stripped-down embedded version of an enterprise database, the UltraLite option, which is optimized for mobile and handheld devices, dynamically builds an embedded database that can be synchronized with back-end systems.

"Eighty percent of developers use 20 percent of the functionality," said Kleisath. "The question is, which 20 percent? Unlike other vendors, we don't make that decision for you."

According to Kleisath, iAnywhere boasts 7 million licenses in current use, 10,000 corporate customers and more than 700 OEM partners. The company is aggressively marketing to segments such as the mobile market, stepping up direct sales efforts, and making significant investments in R&D. SQL Anywhere Studio is sold using several pricing schemes, including per seat and by OEM agreement. The UltraLite component also is available to C/C++ and Java developers as a free download or as part of SQL Anywhere Studio.

And then there is FastObjects, the object-oriented embedded database from Poet Holdings Inc. (www.poet.com) and its exclusive U.S. distributor, FastObjects Inc. (www.fastobjects.com). According to Jochen Witte, CEO of Poet Holdings, the FastObjects database is ideal for C++ and Java programmers who want to store complex data types such as audio, video, graphics and XML. Footprints range from 450KB to 2MB.

FastObjects j2 is a set of Java data management components optimized for Java-based handheld devices and networking equipment. FastObjects e7 is a set of C++ and Java data management components designed for larger embedded designs, such as telecom devices and semiconductor inspection systems. OEM and noncommercial licenses are available.

Witte claimed FastObjects is the leading embedded database choice for Java-based embedded designs in Europe; however, he also admitted that the object-oriented nature of the database can be a barrier to adoption in the U.S. because in the past object-oriented databases were "overhyped and underdelivered."

Unlike Poet/FastObjects, Birdstep Technology Inc. (www.birdstep.com) isn't putting all its eggs in the object-oriented basket. In fact, the company offers a total of four databases—including RDM Embedded, a relational database that supports several real-time operating systems; RDM Mobile, an object-oriented database; and RDM XML, an XML database—all of which are designed for handheld devices, Internet appliances, and embedded devices. The company also offers RDM Server, a client/server database for line-of-business applications. Footprints range from 100KB to 1MB.

Birdstep targets its embedded design customers through direct sales and sales representatives. Pricing is twofold: Customers may buy development licenses and runtimes, or do a "buyout" for a project or a specific time frame. According to Tom Clark, president and COO of Birdstep, the choice of database depends on the problem the designer is trying to solve, the application, data types and the number of users or clients that will have to access the database. He also said the breadth of products allows customers to migrate from stand-alone designs to client/server implementations, which is becoming a trend.

McObject eXtremeDB 2.0 takes more of a traditional approach to embedded database design, but adds a modern twist. eXtremeDB is an all-in-memory database

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Need Growing for Back-End Links

BY LISA MORGAN

To understand vendor strategies, one needs to understand how the embedded market breaks out. In the traditional view, single-user, single-threaded embedded databases are used in stand-alone designs.

There is interest now in extending stand-alone devices, says Progress' Powers.

Although these databases still are popular, many vendors are extending their product lines to include multiuser, multithreaded embedded databases, synchronization capabilities, server products and toolkits. Having a greater array of products enables vendors to address different types of embedded market segments, provide customers with upgrade paths and, of course, balance financial risks among several products.

Developers also win. The availability of more tools and product choices can translate to greater design flexibility, smoother upgrade paths and a greater level of interoperability.

Regardless of what type of embedded database any particular vendor offers, most agree there is a growing requirement to link embedded devices back into the organization, either through synchronization or persistent links.

Chris Kleisath, director of engineering at iAnywhere Solutions Inc. (www.ianywhere.com), a division of Sybase Inc., pointed to Chili's restaurants as an example. Waiters enter customer orders on handheld devices that are synchronized with an on-site server. Data then flows from the server back into the corporate enterprise system.

In stand-alone mode, these devices do little to improve strategic business processes. On the other hand, if enterprise applications can be pushed out to the devices, the value to the organization increases.

On the shop floor, the same can be said for industrial devices. A stand-alone robotic arm may be able to pick and place components faster than human hands, but a similar device that feeds real-time production data back to the enterprise may prove far more valuable.

Embedded database vendors of all types seem to agree that the value of just about any device increases when there is a bilateral flow of information between it, its peers, a server, back-end systems or all of the above.

"There is only an incremental benefit to a [stand-alone] device or vertical application. People are just now thinking of extending them out," said Niel Powers, director of product marketing at Progress Software Corp. (www.progress.com), a provider of embedded databases. ■

EMBEDDED DATABASE MARKET MATURING

Embedded database vendors see big dollars on the horizon, although the economic slowdown is hitting some harder than they want to admit.

The optimistic projections are based on the fact that microprocessors and memory are being built into more types of devices—handheld computers, gas pumps, industrial devices and consumer products, to name a few. And, like computers, the amount of processing power and memory continues to increase while prices continue to fall and footprints continue to shrink. More processing power and memory translate to more room for such things as local data storage, manipulation and retrieval. There is also a growing need for built-in security, transactional capabilities and device interconnectivity in both horizontal and vertical applications. From a vendor perspective, the market opportunity appears to be huge.

The numbers from Colleen Graham, an analyst at research and consulting firm Gartner Inc. (www.gartner.com), are sobering, however. She estimates sluggish growth of the embedded database market of a mere 1.5 percent between 2001 and 2004, which is primarily attributable to recession-based spending cutbacks. "We keep pushing our forecast out," she said.

The mobile market is expected to grow at a faster rate, but the actual revenue numbers are surprisingly low. Graham forecasts a compound annual growth rate of 17 percent. She said the total revenue in 2001 was a meager US$69 million, which will grow to $150 million in 2006.

According to Graham, the macroeconomic free fall is hitting the embedded database market hard. OEMs, such as telecom vendors that use embedded databases in routers, are buying and selling less. Enterprise projects, particularly those related to mobilization, are being put on hold indefinitely.

Perhaps that's one reason why embedded database pricing is as soft as it is.

Ask an embedded database vendor for pricing and there may be a dramatic pause. The answer often is: It depends on who you are, what you are building, and how many embedded database copies you intend to bundle in your product. *–Lisa Morgan*

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with a footprint of about 100KB, designed specifically for embedded devices such as set-top boxes, handheld devices, telecom equipment and consumer appliances. It stores and manipulates data in main memory and is optimized for high transaction rates. To speed performance, McObject (www.mcobject.com) stores data in the form used by the application rather than storing or translating it in a relational format. The company also offers an XML interface that allows data exchange between McObject and XML-based systems, as well as development tools aimed at streamlining development.

McObject, like several other vendors, claims it adapts its pricing model to the customer's business model, meaning it sells development seats and redistribution licenses such as for ISVs and OEMs and may adjust pricing based on volume. McObject also has a royalty-based program for operating-system vendors.

"The cost of entry has to be inexpensive because, particularly in a soft economy, companies are concerned about R&D cost considerations," said Steve Graves, president of McObject.

Like McObject, FairCom Corp. (www.faircom.com) stresses the need for a small footprint and high performance in embedded designs, although c-tree Plus can be used for the development of small embedded devices and large enterprise systems alike.

The entry cost must be inexpensive, says McObject's Graves.

"Scalability is really important," said Randal Hoff, director of business development at FairCom. "In a lot of cases, the applications need to migrate up. Moving customers forward will require more higher-level interfaces like SQL and .NET."

One of the big differentiators, according to Hoff, is FairCom's Indexed Sequential Access Method (ISAM) layer that allows developers to write in a high-level language, then fine-turn performance at the lower ISAM level. c-tree Plus is available for a purchase price of US$895, and includes source code and is sold on a per-server basis. Quantity discounts and distribution fees may apply.

Berkeley DB, from Sleepycat Software Inc. (www.sleepycat.com), is another embedded database that can be used for both compact and very large designs. There are four Berkeley DB products: Berkeley DB Data Store, for single-user data storage; Berkeley DB Concurrent Data Store, which provides multiuser access to the same database; Berkeley DB Transaction Data Store, designed for high-end server and embedded applications; and Berkeley DB High Availability, for designs requiring data replication, failover and disaster recovery without service interruption.

Berkeley DB is available for free or for a fee, depending on the customer's intended use. According to Mike Olson, president and CEO of Sleepycat, his company owns all the intellectual property in Sleepycat 2.0 and higher. As a result, the company benefits from both license revenue and from the quality of a product created in the open-source community.

Sleepycat sells developer licenses for US$25,000 to $300,000, depending on the services required. The company also has an open-source license available for those willing to distribute their source code for free. For smaller vol-

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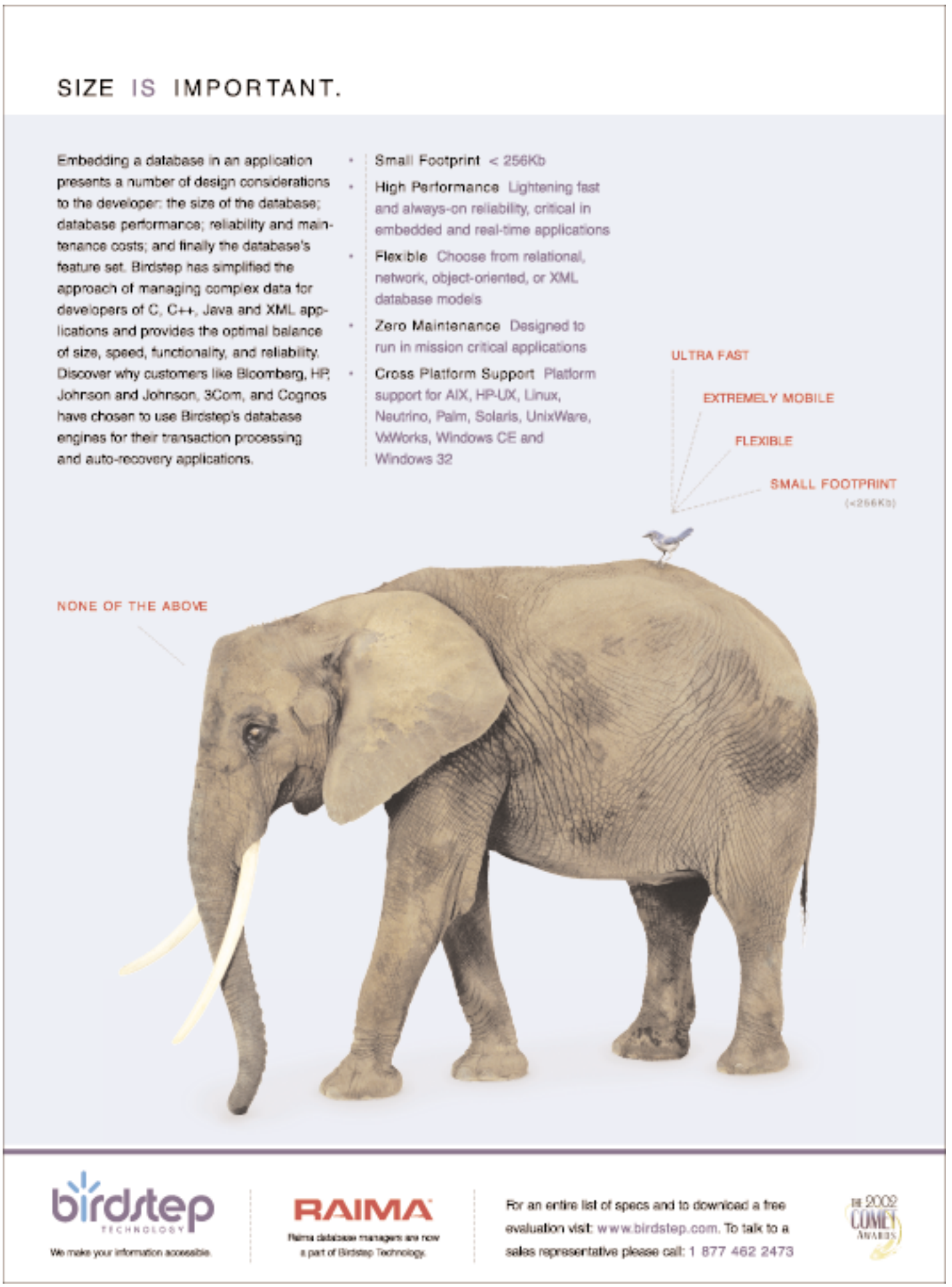
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2002 COMET AWARDS

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ume requirements, pricing per copy may be negotiated on a case-by-case basis.

"RDBMS vendors have raised the bar on data management expectations," said Olson. "Persistence, recovery and high performance are expected now on a variety of devices. Even on small devices, you need to be able to store and retrieve information."

Bruce Scott, founder and CEO of PointBase Inc. (www.pointbase.com), said that the choice of embedded databases has become a strategic one. The value of the database has to transcend a single design.

Not surprisingly, PointBase sells Java embedded databases that the company claims reduce heterogeneous development and testing costs through a JDBC 3.0 interface, among other things. PointBase Micro is designed for applications requiring a single-connection embedded database. PointBase Embedded is designed for multithreaded applications requiring a multiconnection embedded database. The company also offers PointBase Embedded Server, which can be used to serve multiple clients locally or remotely. All products have the ability to synchronize data incrementally or using a snapshot format.

Choosing a database is a strategic decision, says PointBase's Scott.

Pricing of the products is threefold: per unit, as a percentage of ISV or OEM revenue, or a single flat fee.

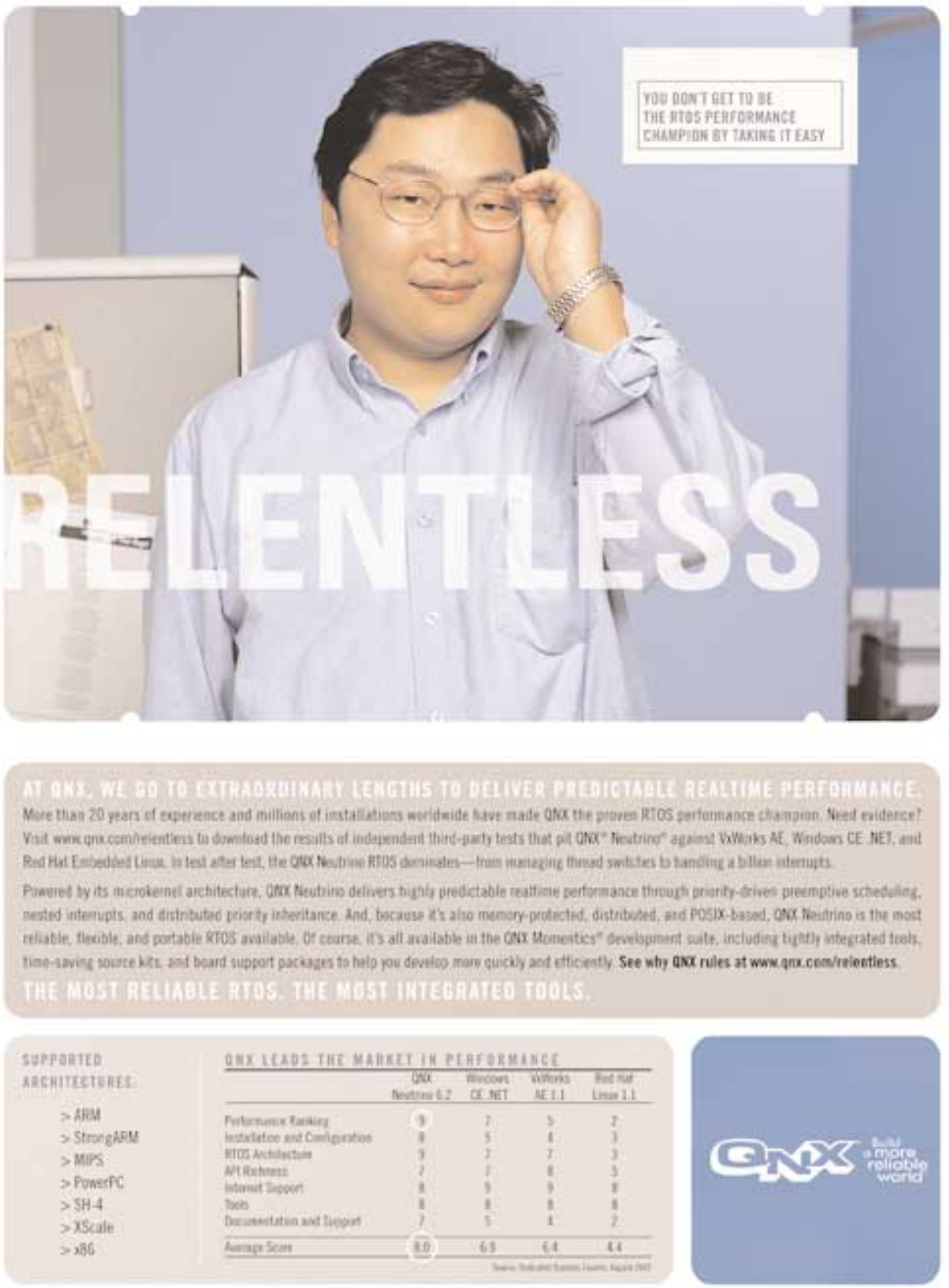
Empress Software Inc. (www.empress.com) is targeting customers in the telecommunications, military, process-control and scientific and engineering sectors. Empress RDBMS is a small-footprint relational embedded database optimized for real-time designs. It collects data locally, then communicates with a server via TCP/IP.

Like many vendors, Empress offers development tools and server products that complement its embedded database. Empress RDBMS is sold in both developer license plus a fee per runtime copy, or through OEM licensing agreements. It includes a Kernel Level "C" Interface that enables developers to optimize the performance of their designs.

Like Sybase, IBM is taking a client/server approach to embedded databases with DB2 Everyplace. Jay Peterson, product manager for IBM Mobile Data Management, said enterprise applications are being pushed out to handheld devices and that consumer products such as Linux-based refrigerators that phone for service are clear future trends. He also said there are many mobile pilots, but the business is very small, which is why the company is marketing DB2 Everyplace through ISVs and OEMs. An enterprise edition is also available and includes the database and a server component. It is sold on a per-processor basis and comes with a toolkit.

MAKING A BUY DECISION

Vendors tend to agree that the best starting point for making an embedded database buy decision is at the design of the product itself. Based on the available space, development tools used, cost considerations and other technical-design requirements, some vendors will naturally fall off the list. Others, upon closer inspection of their pricing models or approach to the market, will look less attractive, which results in a shorter list of probables. ■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EDITORIALS

The Mac Is Back

Watching the rise and fall and rise of Apple's Macintosh platform has been compared to a Greek tragedy. Or is that Greek comedy? The company, and its product line, continually reinvents itself, sometimes successfully, sometimes less so.

The most recent makeover, which controversially shifted from the proprietary Mac OS operating system to the Unix-based Mac OS X, is shaping up to be one of the most successful—and for the first time has positioned the Macintosh as a serious platform, not merely as a niche product for graphic artists and classrooms.

Over the past year, Apple has crossed one milestone after another. Mac OS X has proven itself to be fast, stable and efficient. The Xserve server, released in July 2002, has provided the company with a credible back-office solution that combines NetBSD-based Unix, Apache and a friendlier user interface than most Linux implementations.

Best of all, development tools vendors continue to embrace Mac OS X. The most recent Macworld Expo in San Francisco saw releases from Macromedia, Oracle and others. Of course, many key tools companies still haven't jumped onto the Mac bandwagon; Borland stands out by its absence.

If Apple continues on this path, and puts as much effort into attracting new tools vendors as it does revamping its laptop line, the Macintosh may yet develop into a credible data-center competitor to Windows. Licensing third-party hardware makers to build Mac-compatible systems also would help, but we're not holding our breath.

Celebrating Database Diversity

"I've got a lovely bunch of coconuts, there they are all standing in a row…Big ones, small ones, some as big as your head."

Forget about coconuts—think about embedded databases. Big ones, small ones. Some run in-memory, others don't. Some use full ANSI SQL, some a SQL subset, others a different access method. Some in C++, others in Java; some in source, some in binary; some that sync with enterprise databases, others designed for stand-alone persistence.

The variety of embedded databases provides developers with many viable options. But conversely, the one-size-doesn't-fit-all aspect of this particular solutions category runs contrary to the existing trend within IT departments of standardizing on particular solutions.

When it comes to Java app servers, code editors, load testers or even enterprise databases, there are many benefits to choosing one best-of-breed tool. Those benefits include volume discounts, ease of code reuse, greater application portability, simplified training and more flexible staff redeployments. And, of course, having one phone number to call when things go wrong.

With embedded databases, the situation is vastly different. Given the wide range of applications, hardware capabilities, connectivity and back-end integration needs, no one vendor or product line can provide an optimal solution for all needs. We would urge development managers to resist the idea of standardizing on embedded databases, realizing that the diverse nature of the product offerings provides an opportunity for finding the best tool for each particular job. ▮

GUEST VIEW

DON'T FORGET APPLICATION MANAGEMENT

I've often wondered why application developers so frequently treat management as an afterthought when building and delivering their applications. Developers know that application management is important for successful applications that become mission-critical and widely used. The reason can't be a lack of faith in the success of their application, since they must be optimistic about that. Perhaps it's because application developers fundamentally believe their applications will work perfectly and will never need management. Or a more likely reason may be that management instrumentation is too much work and there is every incentive to make it somebody else's problem.

Whatever the reason, this lack of effort on making applications manageable invariably turns into a crisis for operations at a time when the applications are mission-critical and hard to change. As a result, application developers are challenged with adding manageability just when any change is very costly and takes a long time. It's easy to see that with awareness and planning for management, developers could avoid some significant difficulties down the road. This would seem appropriate if they're planning for the success of their applications. It's worth a closer look into why something that seems sensible is rarely practiced.

TONY G. THOMAS

An operational perspective is hard to expect from application developers. Such a perspective is required to appreciate the value of management capabilities. Without scale and diversity in the applications infrastructure, it's easy to make do without many of these management capabilities. It is typical in a small deployment or organization to have no application management tools. However, once an organization experiences scale, diversity, outages, downtimes and other operational facts of life, all these dimensions of management take on increased importance. It is often a result of experiencing high-profile outages that many a growing enterprise has matured their processes and tools.

For a mature organization with good operations practices, this lack of management would be identified early and steps would be taken to control the risks. This may include requiring proper management capability in the applications prior to deployment, bringing in new management tools, ensuring on-site support, or other steps to ensure availability and performance. The best solutions require management instrumentation of the application, without which operations staff is often blind to the real application availability and performance, and unable to administer the application as and when required. Furthermore, common methods are needed across multiple applications to allow operations staff to manage

LETTERS TO THE EDITOR

UML? WHY NOT ENGLISH?

In David Rubinstein's interview with Mr. Tim Sloane ["Driving Toward Better Software," Jan. 1, page 30, or at www.sdtimes.com/cols/industrywatch_069.htm], Mr. Sloane's first quote regarding MDA, where he stated, "If you don't do this, you'll die," isn't quite accurate. More to the point is, "If you don't do this, OMG will die." While MDA is a useful methodology, the conclusion drawn that it is some form of global solution is incorrect.

I agree completely with him that processes need to be pulled out of the technical side and preserved elsewhere. However, doing so with UML is a poor choice.

I say this primarily out of lessons of a practical nature—implementing MDA as the OMG defines it requires all members of the team to understand UML fluently. That simply will not happen.

Companies that are pressured to get technology out the door or into a box do not have time to teach their people this language. I might add that UML is at least as complex as some of the current RAD tools offered by companies such as Microsoft and Borland.

Would you, if you were running an IT department, force everyone to learn to write Delphi code to explain themselves to each other? Of course not—there is already a language they all share that can be used successfully.

His statement that "processes are embedded in systems" makes an assumption that there is no documentation of the system or an explanation of its implementation. For many systems, this is true, and implies a brittle architecture that is subject to defeat by more nimble competitors.

While it is true that fewer modelers can churn out more automated code than developers can produce customized code, this overlooks the crucial step involved in all software: gathering and preservation of correct requirements.

Without a recorded set of requirements, UML and the MDA methodology are simply abstracting the brittle hard-coded system one level up, making it a brittle and hard-coded UML document from which automated code is derived. What benefit is there in that?

I would like to point out that a properly written requirements document is platform-independent, easily integrated into the documents relating to other applications within the enterprise, and can give rise to extremely robust code.

This requirements doc, it also happens, will generally be written in a language native to all members of the team, doing away with the expense of training them to read and write UML. Using currently available tools, the "house of cards" issue regarding coding to existing data systems can be avoided—linked requirements can be used to identify warning flags for changes that are to be made before they become hazards.

these multiple applications.

Some application developers anticipate operational needs, and try to include the required capabilities. These developers foresee the administration, logging and monitoring needs of their users, and build these into their applications. Unfortunately, because of the difficulty of standard instrumentation, they often use proprietary mechanisms, including log files and scripts. While this may fulfill some of the immediate needs anticipated by the developers, it is usually a poor fit with the real requirements of enterprises that have to deal with a complex integration of many such applications. If each application has its own way to do administration and monitoring, handling the diversity of management tools becomes its own challenge.

There is therefore a clear need for standards-based instrumentation for applications, such that common management consoles can use it to enable operations management of these applications. A host of standards initiatives using SNMP, DMI, CIM/WBEM and ARM have tried to address this. Each has made some contribution, but we are left without a compelling solution to the problem. One cannot overlook the difficulty of instrumentation for application developers as one of the major reasons for the scarcity of good solutions. One has to sympathize with developers, who would rather not spend their time learning the intricacies of an instrumentation standard.

However, this should not justify continuing the "throw over the wall" approach so prevalent today among application developers. Developers need to look for ways to ensure that their applications can be managed once they are taken over by operations. The key to good application management is in the hands of developers, and they must use their knowledge to ensure successful application deployments, including smooth operational management.

What kinds of management are we talking about? At a basic level, there needs to be a way to figure out that the application is working correctly. Like a gas gauge in a car, your application instrumentation must let operations know things are working right, and send alarm notifications if they are not. More broadly, ways to track availability and performance for your application must be made available. The operations staff knows little about the internals of the application and what makes it tick—or not. Application developers must expose the right information to enable operations to know when to take corrective or preventive action. Furthermore, providing the right administrative hooks and controls as well as performance data will help keep the applications working well.

Developers need to find and use tools to make their applications manageable, and instrument the applications for the important data, control and notifications that are so essential to proper functioning of their applications. For the Java and J2EE world, an emerging standard, Java Management Extensions (JMX), makes this less of a burden. It makes the problem of instrumentation much simpler. JMX is already playing a key role in the trend toward better management of J2EE applications and application infrastructures. For example, many J2EE application-server providers are using this technology for core control and management functions, and have made JMX an essential building block of their products. For other environments, CIM, ARM and other methods may be used.

It's important to go beyond simply monitoring infrastructure and emphasize the application-level instrumentation. There are now automated tools to generate instrumentation and radically simplify the burden on the application developer. This new breed of tool empowers the developer to quickly and easily provide the kind of information needed to properly manage his or her application.

With the kind of tools available today, there is no longer an excuse for not providing good application-level management instrumentation. Application developers can easily add appropriate instrumentation to their applications and reap the benefits during deployment. Armed with this capability, they do not have to be so careful about wishing for the success of their applications. ■

Tony G. Thomas is CTO of AdventNet, which sells JMX-based management tools.

I was also disturbed by his use of the figure that less than 5 percent of dev organizations measure their performance. How does this relate to MDA, as opposed to other methodologies? While the mention of lack of measurement does generate that "Why aren't we doing this?" feeling, I fail to see an argument of how MDA offers a solution to this.

The problem we face is cultural, not technical. It arises from the last 20 to 30 years of development history. Here in the U.S., micros proliferated among "hobbyist" users, and the majority of developers for the microcomputer platform were not formally educated.

When companies began bringing in PCs as an inexpensive alternative to the mainframe/minicomputer, that "hobbyist" developer population became a "professional" group. This led to a "gunslinger" industry (where only the gunslingers could tell who was any good, and many weren't).

Personally, I feel this is one of the biggest reasons the dot-com fraud was perpetrated on the rest of the world—bad development practices. The frontier seems to have hit the ocean, and now the settlers who actually have to live here (read: CEO, CFO, etc.) are introducing law where none existed before—a difficult task, but one that will be accomplished with time, and likely a lot of lost money.

The solution to the problem Mr. Sloane points out is far simpler than he suggests. Proper requirements-gathering at the front end of production, and ongoing communication among the team, is the solution—however, this solution requires a cultural change in the programming industry.

Developers need to be trained to check, double-check and triple-check what it is they are building before they build it. The old adage of hiring a contractor to build you a house comes to mind—would you pay hundreds of thousands, or even millions, of dollars to someone to build you a house without first seeing the blueprints?

Business analysts and product managers want to simply tell the developers, "Here's what to build," and get the product at the end of the quarter. They need to keep in touch with the development team and the customer base, and make sure that the ongoing effort is directed at satisfying that customer base—even as requirements change through the development cycle.

The habits we as an industry are in are not easy to break, but they must be broken if we are to repair this dysfunctional development cycle. New methodologies may give us frameworks to strive toward, but they are not the solution.

I put forward that this culture is what the CXOs must start to care about in order to improve the business efficiency of the organization.

I mentioned earlier that the teams already have a native language that will suit them better than UML. In this nation, that language is English.

Thomas J. Theobald
Marketing Manager
Xapware Technologies Inc.

Editor's note: Xapware sells business process tools for managing the software development life cycle.

CORRECTIONS

IBM Corp.'s Eclipse open-source project supports the Standard Widget Toolkit (SWT) for the graphical user interface; Sun Microsystems Inc.'s NetBeans initiative supports the Abstract Window Toolkit (AWT) and Swing. This was incorrect in a story that ran in the Jan. 15 issue ("NetBeans Still Key to Sun Tools Strategy," page 5).

In mid-December, Raining Data Corp. released version 2.0 of its mvDesigner GUI tool. The version number was incorrect in a story that ran in the Jan. 1 issue ("Raining Data Updates mvDesigner GUI Builder," page 12).

WHAT DO YOU THINK?

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NO REAL WEB SERVICES PROGRESS IN 2003

Web services are supposed to have a big year in 2003. Don't know about you, but I've got very little hope in the hopper for this one no matter how much sunshine that Microsoft—and to be fair, a host of other vendors—blows my way. The concept is great, but similar to Communism, it's just not a realistic view of human nature.

For XML-based Web services to have widespread benefit, rather than merely being a point solution for EAI, applications must be able to communicate seamlessly via the Internet and regardless of operating layers. Networks must be able to ignore geography completely, with users able to share not only bandwidth but also data with nary a concern for operating-system zealotry.

Yeah, that'll happen. Someday. Last year, I merely hinted that Linux and Windows TCO numbers were catching up to each other on certain fronts and I got death threats. Little red laser-sight dots were buzzing on my chest like fireflies whenever I poked my head outside, and someone hung a penguin doll wearing a red hat off my mailbox. And this is the same environment that's going to make all nice-nice in the next 12 months? I think not.

Basically, we're talking about all IT technology communicating seamlessly whilst using the Web as some sort of giant routing hub. Plug in your nodes and the software layer will be able to define your internal and external boundaries based on a slick series of operating layers. This sounds great—even possible, but after watching the glacial progress of this technology in 2002, it's become obvious that the whole concept simply has too many components, too many moving parts and far too many question marks.

WINDOWS & .NET WATCH

OLIVER RIST

Readers of these august pages will already be aware of my numerous diatribes concerning Web services security. Data security, application security and identity management—three big issues, but there are more, and yet none of them with the possible exception of data security has provided a realistic working solution within the Web services model. Identity management is receiving a lot of attention, but it's hardly what you'd call unified across operating platforms—or even 'twixt vendors.

Microsoft's release last month of an updated Web services security model looks good but hasn't changed substantially from what we were previewed earlier in 2002. And the trouble with that model—as usual—was that it carried almost no support for cross-vendor or cross-platform compatibility. Without that, it's not a Web service, it's a .NET service.

And that's only security. What about user personalization? Unified XML integration and presentation layers? Directory service integration? Heck, I haven't even seen a conceptualized operating GUI that really takes advantage of everything the Web services model has to offer.

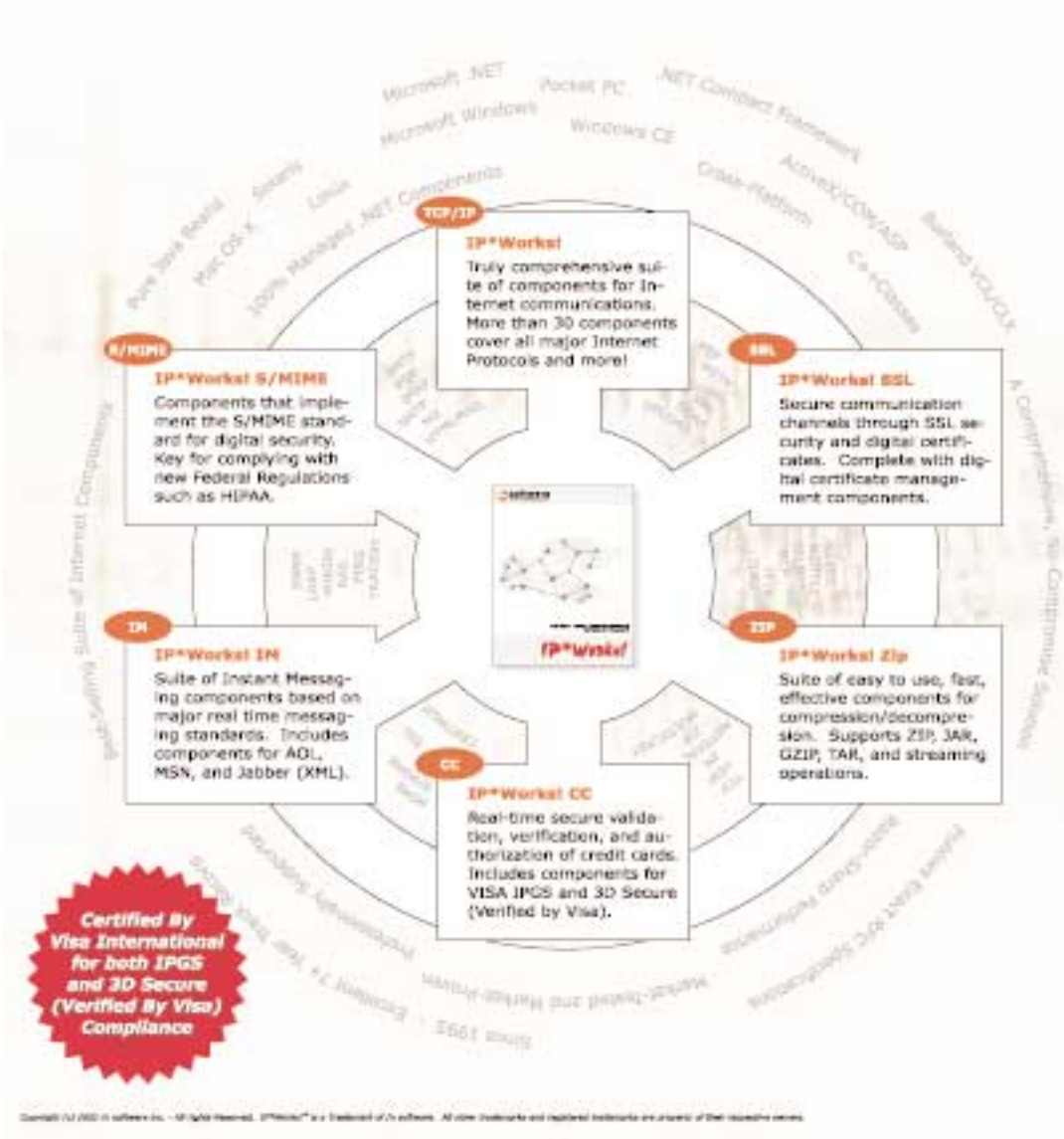
And Microsoft is out there again, looking to rule the world instead of giving us the technology we were promised. To be fair, however, I don't see any of the other big vendors acting any differently. Sun hasn't released an answer to .NET via its Java platform even though it's had almost two years to do so. IBM is simply repackaging everyone else's operating layers and trying to integrate them with WebSphere and DB2. (Frankly, IBM would have more success at it if it *finally* got rid of the VisualAge nightmare, but I digress.) And most of the app-server vendors are simply looking to stay compatible with both camps while attempting to integrate neither.

The upshot is that the powerhouse vendor—Redmond—is merely trying to own Web services and with it the hearts and minds of the entire planet. The other vendors are simply reacting to Microsoft, trying to keep the Northwest Borg in check. Vendor consortiums exist, but the infighting and politicking is worse than ever—all this while trying to build a technology that relies more on interoperability than anything contemplated previously.

I don't see the Web services model as doomed, despite the tone of this column. But I certainly don't see it making any great strides in 2003. To work as advertised, Web services will need to evolve beyond their current state. Monster companies like IBM, Microsoft and Sun will need to see profit margins in cooperation before the real work of interoperability will begin—and so far the only margin they see is in keeping things as proprietary as possible while providing an illusory layer of interoperability.

That's simply how business works—make money by competing with the other guy. Only as the technology evolves and users show some innovation in how that technology is utilized will the vendor community begin to see the profit potential in cooperation. Until then, we'll have .NET services and J2EE applications, not Web services—and that won't change substantially in the next 12 months. ▮

Oliver Rist is a freelance technology journalist and president of FB2 Corp., a New York-based software manufacturer.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WHATEVER HAPPENED TO INTERNET TIME?

Expect the years 2000 and 2001 to be remembered for a long time as the greatest economic deceleration in the history of high tech. But what about 2002 and 2003?

With the correspondingly sharp curtailment in IT spending and the even more dramatic drop in venture-capital funding, the ensuing stagnation in innovation can be no real surprise. Last year saw very few truly new products. Let me see, there was WebLogic Workshop from BEA, M7 from the company of the same name, and portions of the long-awaited .NET platform. None of these tools introduce a conceptually new view of development or technology, or represent a potential for new business opportunities or new ways of delighting consumers. Rather, innovation last year came in the form of tilling old ground in new ways.

This stagnation was even more manifest on the business side of software development. Consolidation was the keyword. The industry has always grown by consolidation.

Rational, for example, was the product of Rational plus Pure Atria, itself a merger of Pure and Atria. Now, of course, Rational will soon be part of IBM. Likewise, Borland—itself a patchwork of acquisitions—just scooped up a pair of companies. In the past, this tendency toward consolidation has created a vendor market in which the principal players were either large companies or start-ups. A trough existed between these two peaks. Companies in this middle area were generally gobbled up by their bigger competitors.

In the present time, however, the landscape is radically different: Medium companies are still being acquired, but few new start-ups are entering the market. There is no trough anymore. Rather, it's more like a hyperbola: nearly flat for much of the way before making a sharp curve upward where the wall of large vendors appears.

MIDDLEWARE WATCH

ANDREW BINSTOCK

At times like these, analysts predict the future by consulting visionaries to hear what's on their radar screens, but even there the absence of new technology is striking. Jim Gosling continues to be diverted by Java advocacy. Bill Joy is working on N1, an initiative that seems to lack a compelling differentiator from existing solutions. Alan Kay is just starting out at Hewlett-Packard. IBM's renowned Almaden Labs are working on refinements to database models and security methods in polling mechanisms; that's important, but there is no sense there that these innovations will be rolled up into must-buy products anytime soon.

Even that traditional hotbed of innovation, the open-source movement, has become remarkably mainstream. The old-time zealots are mostly working on traditional tools that lack the revolutionary fervor of Linux or Apache. (To be fair, even Linux and Apache were revolutionary more because they were open source than because of unique functionality. Today, the Mono project would fit the same bill: Its importance lies not in its innovation, but in the fact that it delivers existing technology freely and in open source.)

The blahs are less compelling in hardware, but they are pervasive there too. The great innovations that were to appear in the storage sector now seem elusive. ISCSI, a way of doing storage-area networking over ordinary Ethernet, has lost its élan, while serial ATA—a neat technology—may be waylaid by the extraordinarily favorable pricing of currently available drives.

Consumer-level hardware offers some intriguing possibilities—but only a few of them. Anyone who has seen HDTV at its best cannot but be bowled over by the improvement it delivers in image quality. Likewise, universal Wi-Fi is emerging as a distinct probability during the next two years, and if so, it will surely transform our concepts of bandwidth availability. Ever-higher pixel densities on digital cameras are assuring their diffusion among consumers as is the concomitant improvement in printer technology that makes prints from the same photos. And how many people can get truly excited about MP3 players or browser-enabled cell phones?

Technology is alive and innovative in the consumer arena because consumer spending has paradoxically remained strong during the current economic contraction. By inference, innovation targeting developers and IT has dwindled for lack of spending. Most analysts expect IT spending to pick up in 2003, in part because of Y2K. The computers bought in 1999 as part of the counter-Y2K preparations will be long in the tooth by mid-2003, and upgrades will be inescapably necessary. However, I expect that this IT spending will be narrowly focused on upgrading infrastructure, not expanding it, and so it will not provide a spur to create new technologies.

Curiously, this lull in innovation offers IT sites a unique opportunity. Development projects in the pipeline can be undertaken without concern for the distraction caused by the latest new thing. Use this quiet time wisely, finish up migrations and transitions, and be caught up and ready to roll when the upturn begins. ▮

Andrew Binstock is the principal analyst at Pacific Data Works LLC.

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ORACLE'S INTERFACE DIPLOMACY

Want to know my guilty secret? I like the combination of Microsoft Software Developer Network (MSDN) and Microsoft's Visual Studio. Yes, Borland's development tools are stronger and better, but Microsoft's complete salad-to-dessert development package is a tasty one.

The biggest weakness with VS.NET, of course, is you can't program in Java with it. (Don't even mention Visual J#, OK?) And, if you think real Java is going to be coming to Visual Studio any time soon, even after Judge Motz's order to Microsoft that it must carry real Java in its operating systems, I have a nice bridge in Brooklyn to sell you.

But what Visual Studio does give you is a universal IDE for all languages. Even though there's a vast difference between programming in Visual Basic and C++, once you've learned one IDE, your programmers don't face the downtime of learning another when they switch to a different project, or to a part of a project that's better written in another language.

Some Java developers have always envied their Microsoft sisters and brothers this universal GUI, and Oracle now has an answer for them. It's Java Specification Request (JSR) 198, A Standard Extension API for Integrated Development Environments (www.jcp.org/en/jsr/detail?id=198).

JSR-198, with support from JetBrains, Macromedia and, grudgingly, from Sun, is a proposal to create a standard interface for adding extensions to Java IDEs. This will enable vendors to write an IDE extension once, to add specific functionality, and have it work (in theory) on any J2SE-compliant IDE.

In short, JSR-198 is an attempt to create an application programming interface for different Java programming applications so that no matter what's going on behind the scenes, it will always work the same way.

JAVA WATCH

STEVEN J. VAUGHAN-NICHOLS

The first version of JSR-198 will attempt to standardize how to handle the following IDE extensions: menu bar and context menus, toolbar and New Gallery items, Project Tree aka Navigator, editors and wizards, source-file management, listeners for changes to in-memory source files, source-code buffers, metadata model (class, method, members), preferences and log windows. Yes, it's a big job.

Most Java developers—those who care about standards and not just how they're going to get their next Enterprise JavaBean to work—like the overall idea. One programmer I know would kill to be able to develop in Borland's JBuilder but use IBM's WebSphere for source-code control. In particular, I can see how shops that are wedded to one development tool family but have to work for IT departments that use another would love to be able to quit worrying about the quirks that always spring up when you move from one development environment to another.

Everyone agrees on the generalities. The devil, as always, is in the details.

On one side, you have Sun with NetBeans. More specifically, you have Sun and BEA supporting Java's Abstract Window Toolkit (AWT) and Swing for creating user interfaces. This approach also supports identical application presentations. With AWT/Swing, your applications should always look the same no matter whether they're being run on a Dell with Windows XP or a Nokia 9210 with Symbian OS. Sounds nice, but even programmers I know who love all things Sun—yes, there are some—admit that Swing is, shall we say, difficult to use and slow to boot.

And on the other side, you have—you guessed it—IBM-backed Eclipse, which also is all about integrating IDE and development tools. And, it backs the Standard Widget Toolkit (SWT), which, since it enables programmers to create applications with looks that vary according to operating system, takes quite a different tack from AWT and Swing; it's faster, but it's not part of the J2SE spec.

Don't you just love standards wars? I know I do. Not!

Oracle seems to be attempting to find a diplomatic solution. I'm not sure it can find one. The proposal at this point is clearly in the AWT/Swing camp. But at the same time, Sun, from what I've heard, doesn't seem entirely comfortable with it. I suspect that's because Sun feels it's losing even more influence over the course of Java development.

Which is why I, for one, will be very interested in seeing what happens between now and March 15, when the first working draft is due out. For starters, I'll be surprised if it hits its deadline, unless Oracle has already done even more homework on the project than I think it has.

But the real question is, how much support will it get? If—and I think it's a big if—JSR-198 makes it through and becomes accepted by most of the Java development world, it could give Java its most significant boost in years. Yes, I really do think having a universal developer IDE would have that big an impact. After all, it worked for Microsoft with Visual Studio. ■

Steven J. Vaughan-Nichols is editor of Practical Technology (www.practical-tech.com) and has worked as a programmer for NASA and the Dept. of Defense.

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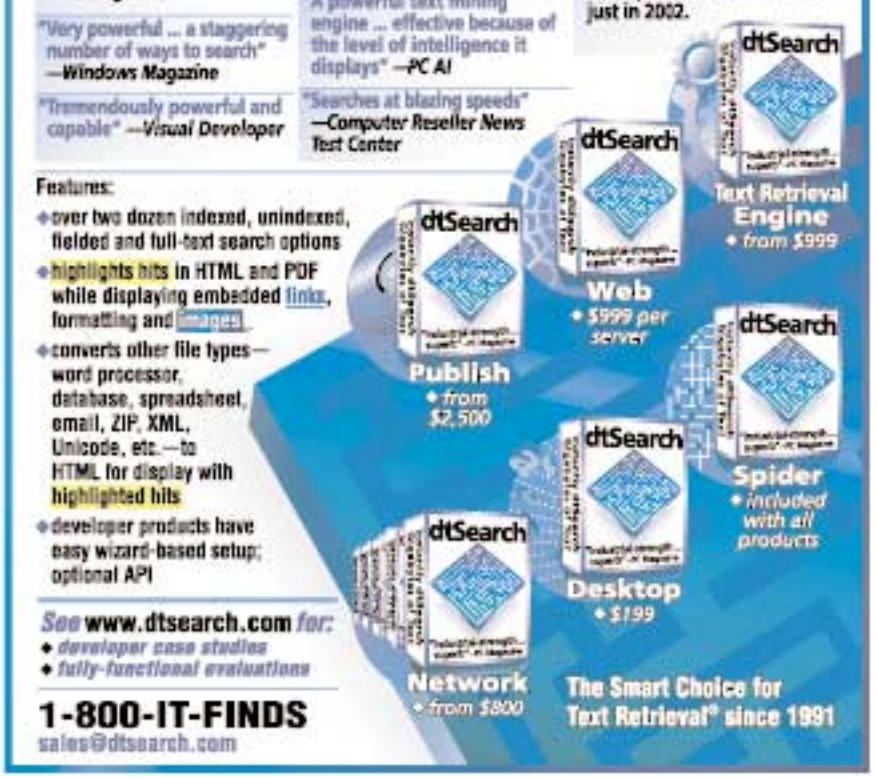

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CONSIDER THE OUTSOURCE

Yet another research firm has produced a report claiming companies that outsource software development work are, for the most part, not satisfied with the outcome, especially if the work is doled out to a U.S. firm.

The reasons cited for this lack of satisfaction were the usual: poor communication between the development teams, less than adequate management of the project at the remote site, especially if it is overseas, and service-level agreements missing the mark. As for why companies would send work out, cost again was cited as a leading factor, as well as being able to take advantage of specific developer expertise—if your developers have been writing database applications and now you need Enterprise JavaBeans written into an application, it might be cheaper to outsource the work than to take the time and expense of training your in-house developers.

INDUSTRY WATCH

DAVID RUBINSTEIN

All in all, not much new ground was broken by this report, called Global IT Outsourcing Study, from DiamondCluster International Inc. (www.diamondcluster.com). To be sure, however, there were a few interesting nuggets worth looking at in greater depth here.

One notable point is that cost, while listed among the top three reasons for outsourcing by companies responding to the survey, was not the overwhelming factor. Instead, many respondents said cost was secondary to the depth of skill of the outside team, as well as companies wanting to take development projects that did not add value to their business projects out of the organization.

DiamondCluster also found that outsourcing is becoming commoditized, which is resulting in shorter turnaround times for projects. According to researcher Tom Weakland, many foreign shops are beginning to look the same—they all have high levels of CMM certification, they all claim to recruit developers from the best area universities, and they are bending over backward to get new clients by adding equipment and staff.

The result of this sameness is that companies can reduce the amount of time researching and selecting the outside development team, and they can make a quick review without going through a more lengthy RFP process.

Meanwhile, those that outsourced to a U.S. company paid higher costs and found the developers did not have the same broad skill sets as those found in developers abroad.

In announcing the results of the study, DiamondCluster suggests a company ask itself four questions when entering into an outsourcing relationship; failure to answer even one could indicate a less-than-satisfactory outcome. The questions are: How well is the outsourcer performing versus service-level agreements? How well is the client organization performing versus those same SLAs? How do the actual results of outsourcing compare with the projected results in the business case? And finally, how has the business case changed with the changing nature of the outsourcing relationship?

"Good SLAs have upsides and downsides for both sides," Weakland said. "Bad SLAs have nothing but downside for the outsourcer."

According to Weakland, these are questions that can be answered quantitatively rather than qualitatively, yet he said a surprising number of people aren't asking these questions.

By asking the four questions, perhaps the results of the next outsourcing project will be different from all other outsourcing projects.

THE MOUSE THAT ROARED

Last month, embedded software vendor Green Hills Software Inc. declared the industry recession officially over. Thank goodness! Frankly, I was getting concerned.

Green Hills' pronouncement, based on its latest quarterly sales, is somewhat akin to the tiny nation of Liechtenstein declaring that, based on its indoor/outdoor thermometer readings, global warming has ceased.

I'd like very much to believe Green Hills, but I'll take its statement with a large grain of salt. Green Hills, a private company, is to be commended for frankly disclosing it had US$45 million in revenues last year (although this figure cannot be independently verified). That number is still quite a distance behind acknowledged market leader Wind River Systems Inc., which did roughly US$240 million in revenue last year. The fact that Green Hills has shown a reported 30 percent increase in sales and earnings is a great statement about Green Hills. But only if similar results are repeated throughout the industry will that be a strong sign that the economy is coming out of its doldrums.

Until other, larger players begin painting the same economic picture, for several quarters, I'll keep the champagne on ice. ▮

David Rubinstein is executive editor of SD Times.

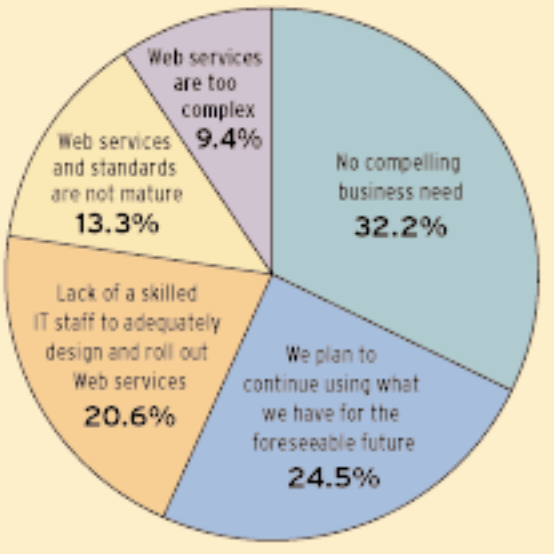
If Your Organization Will Not Deploy Web Services Within the Next 18 to 24 Months, What Is the Primary Reason?

DATA WATCH

Web services are by far one of the most pivotal technologies to emerge in the last decade. They have the *potential* to be second only to the Internet in their importance and impact on corporate and consumer users and common culture.

Mainstream adoption of Web services is most likely two to three years away. The reasons are obvious: Designing, building and deploying a Web services architecture will be costly, complex, time-consuming and extremely challenging. And this is at a time when corporations are overwhelmingly cash-constrained and struggling to find IT purchasing dollars for the most basic necessities, such as new PCs and printers.

Currently, the challenges and impediments to Web services design and deployment are far more obvious and numerous than the compelling reasons for widespread adoption. A December 2002 report from Sunbelt Software and The Yankee Group showed that among those organizations not planning for deployment of Web services within the next two years, nearly a third cited the lack of a compelling business need. This and other factors, including security, cost and complexity, will have to be addressed.


Web services are too complex 9.4%
No compelling business need 32.2%
Web services and standards are not mature 13.3%
Lack of a skilled IT staff to adequately design and roll out Web services 20.6%
We plan to continue using what we have for the foreseeable future 24.5%

Source: "Top Vendors Already Stake Their Claims in Web Services," December 2002, The Yankee Group, www.yankeegroup.com

BUSINESS BRIEFS

European Linux vendor **MandrakeSoft SA** has filed for the French equivalent of Chapter 11 bankruptcy. Despite appeals for customers to subscribe to Mandrake clubs, the company has had insufficient corporate sales . . . The board of directors of **Rogue Wave Software Inc.** has approved a "poison pill" plan that will dilute shares if someone tries to gain a controlling interest in the company without approval from the board of directors. CEO John Floisand said the company's depressed stock price and strong cash position make Rogue Wave a potential takeover target . . . Online staffing company **Dice Inc.** has won an exception to remain listed on the Nasdaq SmallCap market despite failing to meet minimum bid price and market value requirements. The exception will expire March 28, by which time Dice will have had to have met new conditions imposed by Nasdaq . . . For the first time in its history, testing and performance management company **Mercury Interactive Corp.** has reported it expects quarterly revenues to exceed US$100 million. For its fourth quarter ended Dec. 31, 2002, the company anticipates revenues of between $116 million and $118 million, with GAAP earnings per share between 20 and 22 cents. ▮

CALENDAR OF EVENTS

Wall Street On Java Technology — Feb. 4-5
New York
LIGHTHOUSE PARTNERS INC. & FLAGG MANAGEMENT INC.
www.javaonwallstreet.com

VSLive — Feb. 9-14
San Francisco
FAWCETTE TECHNICAL PUBLICATIONS
www.vslive.com/2003/sf

XML Web Services One — March 3-6
Santa Clara
101 COMMUNICATIONS LLC
www.xmlconference.com/santaclara

Application Development & Integration — March 4-7
Orlando
GIGA INFORMATION GROUP
http://appdevus.gigaweb.com

Software Test Automation Conference & Expo — March 10-13
San Francisco
SOFTWARE QUALITY ENGINEERING
www.sqe.com/testautomation

Integration Technologies Forum — March 17-18
Santa Clara
THE YANKEE GROUP
www.yankeegroup.com/public/events/conferences/ITF2003

CTIA Wireless — March 17-19
New Orleans
CELLULAR TELECOMMUNICATIONS & INTERNET ASSOCIATION
www.wow-com.com/events

Web Services Edge — March 18-20
Boston
SYS-CON MEDIA INC.
www.sys-con.com/webservicesedge2003east

For a more complete calendar of U.S. software development events, see www.bzmedia.com/calendar.

Information is subject to change. Send news about upcoming events to events@bzmedia.com.

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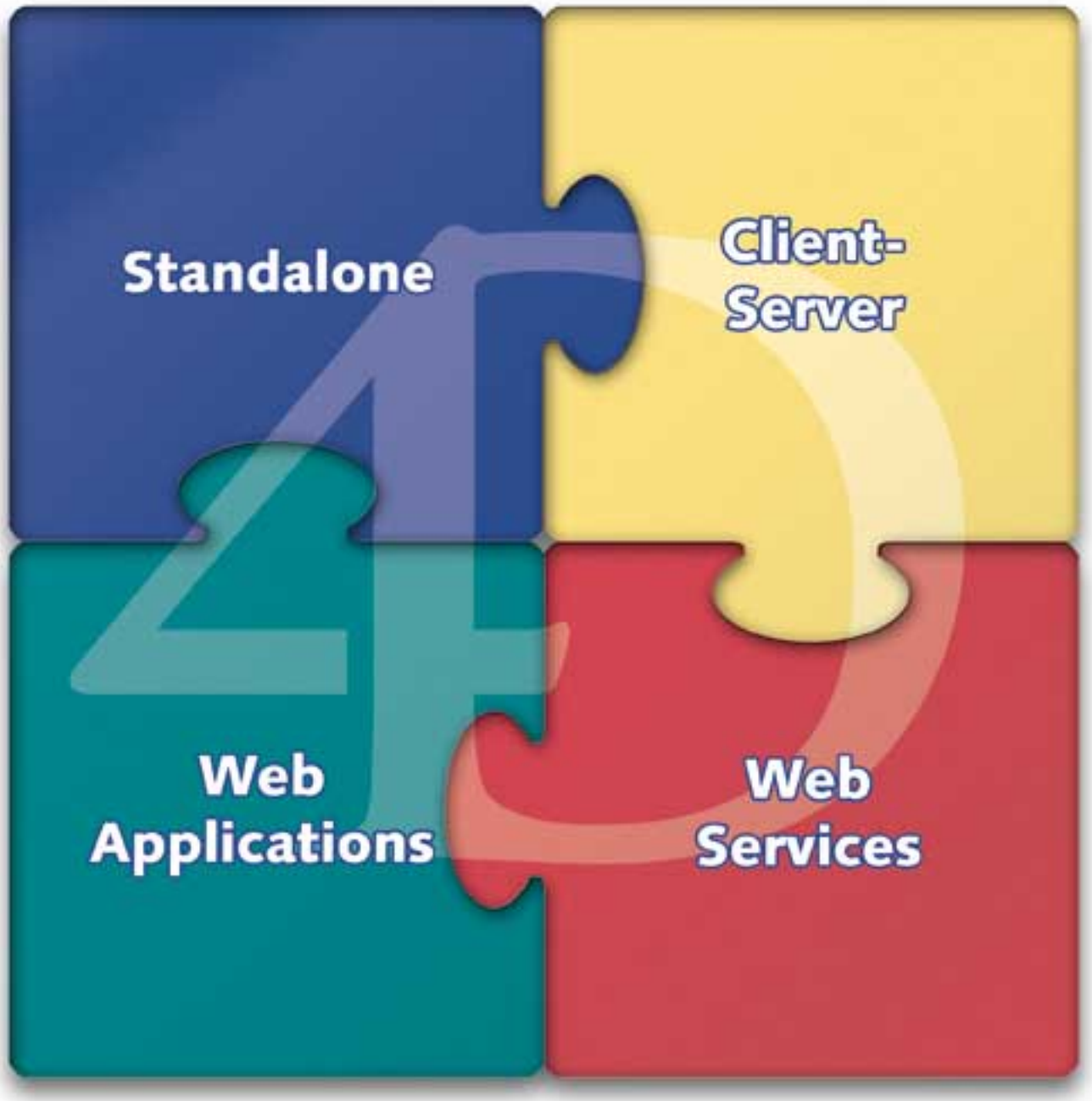

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